

Nominal Structure and Ellipsis in Jordanian Arabic

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Statement of originality

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Abstract

This thesis investigates the structure of DPs in Jordanian Arabic (JA) focusing on Nominal Ellipsis (NE). Cross-linguistically, research on NE has produced a number of perspectives on the mechanisms involved in the licensing of NE. I argue that most of the mainstream approaches to NE cannot capture the full set of the ellipsis facts in JA, and that the ellipsis data in JA can be best captured under the ellipsis and stranding approach of [Saab and Lipták \(2016\)](#). I show that ellipsis takes place at two levels inside the DP, and that pronominalization arises as a by-product of a stranded affix scenario due to the application of ellipsis at the lower NP level. The investigation of NE in JA has implications for the structure of DPs containing numerals and for possessive DPs. It will be shown that that two classes of numerals in JA occupy different structural positions in the extended nominal projection giving rise to different agreement patterns and affecting the possibilities of ellipsis. As concerns possessive DPs, I investigate the behaviour of the Construct State and Free State constructions under ellipsis. I argue that the two constructions behave differently under ellipsis, and that the possessor DP merges in different positions. Overall, this thesis contributes significantly to the debate on the necessary conditions(s) for ellipsis licensing in the DP. It also has implications for the structure of the DP in Arabic.

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During the time I spent in graduate school I've heard my colleagues talk about their reasons for doing a PhD. Some are doing it to secure a decent job, others are doing it for fun, and others have no idea why they are doing it. For me, doing a PhD has always been a dream which I've been looking forward to and planned during the past ten years. Since my undergraduate years, I had to work in different places doing jobs completely unrelated to linguistics just to make this dream come true. This thesis would never have been possible without all the inspiration, support, and love I got from several people.

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Chapter 1

Introduction

1.1 Issues and Main Claims

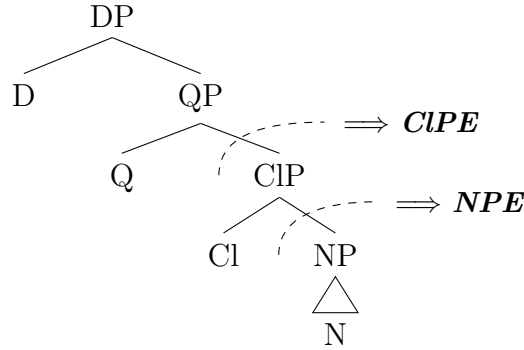
This thesis investigates the syntax of DPs in Jordanian Arabic (JA) with specific reference to nominal ellipsis. The syntax of the Arabic DP has been a topic of much debate in the past several decades (Fassi-Fehri, 1993, 1999; Mohammad, 1999; Benmamoun, 2000; Kremers, 2003; Shlonsky, 2004; Bardeas, 2009, among others). In spite of this considerable work, we find no study that investigates nominal ellipsis in Arabic and in JA in particular. The present thesis will be the first work that examines nominal ellipsis and its implications for the structure of DP in JA and also for the theory of nominal ellipsis.

The thesis addresses the question of what licenses nominal ellipsis (NE) inside the DP. A large body of work on NE has produced a number of perspectives on the necessary condition(s) for NE. Approaches to NE can be divided into three main categories. Earlier accounts of NE argue that it is subject to formal licensing conditions such as the presence of rich morphology (e.g. Lobeck, 1995; Kester, 1996a,b). A different line of reasoning argues that NE is subject to semantic conditions such as partitivity or (D)iscourse-linking (Sleeman, 1996; López, 2000). Finally, there are approaches which argue that NE is subject to an information-structural focus condition (Giannakidou and Stavrou, 1999; Corver and Van Koppen, 2009; Eguren, 2010). The present thesis attempts to contribute to this ongoing debate on the basis of data from JA, a highly inflectional language. Several elements in the JA DP exhibit

agreement in number, gender, and definiteness. As such, JA constitutes a good testing ground for the relevance of the morphosyntactic and semantic features which have been claimed to be necessary for ellipsis to apply.

I argue that the presence of rich morphology (e.g. number, gender, and definiteness) is not a necessary condition for ellipsis licensing. Moreover, I show that focus and other semantic conditions (e.g. partitivity, or D-linking) cannot capture the ellipsis facts in JA. Instead, I argue following [Saab and Lipták \(2016\)](#) that ellipsis takes place at different heights in the extended nominal projection via the presence of an [E]llipsis feature ([Merchant, 2001, 2005](#)). In particular, I show following the arguments of [Saab and Lipták \(2016\)](#) that there are two types of ellipsis in the DP: Noun Phrase Ellipsis (NPE), which targets the noun alone; and (ii) Classifier Phrase Ellipsis (CIPE), which targets a bigger structure than the noun.

(1) *Two types of ellipsis in the DP*



In support of this view, I investigate how nominal ellipsis proceeds in simple DPs, numeral-containing DPs, and in possessive DPs. By simple DPs I mean DPs which consist of a determiner and a noun. Numeral-containing DP, as the name suggests, are DPs which consist of a noun and a numeral. Finally, possessive DPs are DPs which express the possessive relation. An important consequence of this proposal is that it can unify both ellipsis and pronominalization under one single account in JA. I argue that the application of NPE gives rise to a stranded affix scenario, and that the situation is resolved by last resort insertion of a pronominal element yielding pronominalization in particular contexts. I also show that no such stranding takes place when ellipsis

takes place at the higher ClP level since the functional head which hosts the stranded affix is included in the ellipsis site.

The investigation of NE undertaken in this thesis has empirical consequences for the structure of numeral-containing DPs and for possessive DPs. Regarding the former, I show that numerals in JA do not occupy the same structural position inside the DP and argue in favour of a structural division between two classes of numerals: numerals 3-10 and numerals higher than 10. This structural division is supported by both ellipsis and adjectival and verbal agreement patterns. As for possessive DPs, the ellipsis facts presented in this thesis have implications for the structure of two of the most studied constructions in Semitic DPs: the Construct State (CS) and the Free State (FS). The CS and FS have been studied extensively before this work. However, we find no study that investigates the behaviour of both constructions under ellipsis. The ellipsis data in this thesis show that the CS and FS have two distinct syntactic structures, which explains their conflicting behaviour under ellipsis with respect to the possibility of stranding the possessor when ellipsis takes place.

The remainder of this chapter is structured as follows. In the next section, I provide an overview of the main properties of DPs in JA including definiteness, case, number, and gender morphology. I also discuss adjectives, demonstratives, and quantifiers. In section 1.3, I present my assumptions on the DP architecture to be adopted in this thesis. Section 1.4 provides an overview of the remainder of this thesis.

1.2 Overview of DPs in Jordanian Arabic

The purpose of this section is to provide an overview of the DP system in JA. In the following subsections, I discuss the morphosyntax of number, gender, and definiteness in JA. I also examine elements that can modify the noun such as adjectives, demonstratives, and quantifiers.¹

¹The data used throughout this thesis are from JA, unless stated otherwise to the right of each example.

1.2.1 Determiners

Nouns in both Modern Standard Arabic (MSA henceforth) and JA can be definite or indefinite. Indefinite nouns are not marked in JA at all (2a). In MSA, on the other hand, indefinite nouns are marked with the suffix *n* (this process is called nunation) (2b).²

- (2) a. galam
pen(m-s)
'A pen'
- b. qalam-un (MSA)
pen(m-s-nom)-indf
'A pen'

Definite nouns in both JA and MSA are marked by the prefix (*il-*) which corresponds to (*the*) in English (3).³ In MSA, both determiners are in complementary distribution (4b).⁴

- (3) a. il-galam
the-pen(m-s)
'The pen'
- (4) a. al-qalamu (MSA)
the-pen(m-s-nom)
'The pen'
- b. *al-qalam-un
the-pen(m-s-nom)-indf
'The pen'

²See Fassi-Fehri (1993) for an alternative analysis of nunation, where it is assumed that nunation does not mark indefiniteness.

³The definite article (*il-*) is pronounced as (*al-*) in MSA. This difference between MSA and JA is purely phonological.

⁴The final *l-* of the definite article *il-* in JA and MSA undergoes phonological assimilation to the first consonant of the following noun if that consonant is dental.

1.2.2 Case

Nouns in MSA inflect for overt structural case⁵. There are three cases in MSA: nominative, accusative, and genitive. Case markers in MSA are marked by the vowels listed in the following table:

Table 1.1: The distribution of case markers in MSA

	Nominative	Accusative	Genitive
Definite	al-kitaab- u the-book(nom)	al-kitaab- a the-book(acc)	al-kitaab- i the-book(gen)
Indefinite	kitaab- u -n book(nom)	kitaab- a -n book(acc)	kitaab- i -n book(gen)

As is the case in other modern varieties of Arabic, case in JA is never morphologically realized. In JA, nouns occur in the same form irrespective of their structural position in the sentence. To illustrate, the noun *kitaab* (book) occurs in the same morphological form when it occurs in nominative (5a), accusative (5b), and genitive case positions (5c).

- (5) a. **il-kitaab** mawjood fi il-maktaba
 the-book(m-s) found(3-m-s) in the-library(f-s)
 ‘The book is found in the library’
- b. sam gara **il-kitaab**
 sam read(m-s) the-book(m-s)
 ‘Sam read the book’
- c. jawaab il-suʔal mawjood fi **il-kitaab**
 answer(m-s) the-question(m-s) found(3-m-s) in the-book(m-s)
 ‘The answer to the question is found in the book’

1.2.3 Gender

In both MSA and JA, nouns are classified into masculine and feminine. Masculine nouns in MSA and JA do not show overt morphology (6).

⁵ See [Kremers \(2003\)](#) for arguments in favour of structural case in Arabic.

- (6) a. kitaab
 book(m-s)
 ‘A book’
- b. kitaab-u-n (MSA)
 book(m-s-nom-indf)
 ‘A book’

Feminine nouns, on the other hand, are marked with the suffix *-t* in MSA. This suffix, which appears in words such as *sayyara-t* (car) or *maktaba-t* (library), shows a special phonological behaviour. This final (*-t*) is dropped when not followed by anything inside the DP (7).

- (7) maktaba (MSA)
 library(f-s)
 ‘A library’

On the other hand, (*-t*) appears if the noun is head of a Construct State (8),⁶ if a pronoun is attached to the noun (9), or when the noun is followed by modifying elements (e.g. adjectives) (10).

- (8) sayyaratu al-rajuli (MSA)
 car(f-s-nom) the-man(m-s-gen)
 ‘The man’s car’

- (9) sayyarat-i (MSA)
 car(f-s)-my
 ‘My car’

- (10) al-sayyaratu al-s^ʕafraʔu (MSA)
 the-car(f-s-nom) the-yellow(f-s-nom)
 ‘The yellow car’

⁶Construct State constructions are discussed in chapter 4.

In JA however, this (-*t*) is dropped even when followed by adjectives or other modifying elements (11), and appears only in Construct State constructions (12), or if a pronoun is attached to the noun (13).

- (11) sayyara s^fafra
 car(f-s) yellow(f-s)
 ‘A yellow car’

- (12) sayyarit sam
 car(f-s) sam
 ‘Sam’s car’

- (13) sayyarat-i
 car(f-s)-my
 ‘My car’

1.2.4 Number

There are two main types of plural marking in JA: sound plurals and broken plurals. Sound plurals are of two types: sound masculine plurals and sound feminine plurals. Sound masculine plurals are derived via the suffix *-iin* and are only compatible with human nouns (14).

- (14) a. muhandis-iin
 engineer(m-pl)
 ‘Male engineers’
 b. *galam-iin
 pen(m-pl)
 ‘Pens’

Sound feminine plurals are derived via the suffix *aat*. Unlike sound masculine plurals, sound feminine plurals are compatible with both human and non-human nouns (15).

- (15) a. muhandis-aat
 engineer(f-pl)
 ‘Female engineers’
- b. sayyara-aat
 car(f-pl)
 ‘Cars’

JA has another type of plural known as the Broken Plural (BP). BPs are derived via changing the vocalic melody of the root (16).

- (16) a. kitaab → kutub
 book(m-s) book(m-pl)
 ‘Book - books’
- b. galam → glaam
 pen(m-s) pen(m-pl)
 ‘Pen - pens’

1.2.5 Adjectives

Adjectives in MSA may occur in both pre and postnominal positions (17)-(18).⁷ Postnominal adjectives agree (concord) with the modified noun in number, gender, definiteness, and case.

- (17) jamiilu al-wajhi (MSA)
 beautiful(m-s) the-face(m-s)
 ‘The man who has a beautiful face (Intended meaning)’

- (18) al-sayyaaratu al-sⁱafraaʔu (MSA)
 the-car(f-s-nom) the-yellow(f-s-nom)
 ‘The yellow car’

⁷Prenominal adjectives in MSA precede the noun and form a Construct State with it. Therefore, the definite article does not appear on the adjective.

In JA, on the other hand, modifying adjectives can only appear postnominally. In that position, adjectives agree with the preceding noun in number, gender, and definiteness (19).

- (19) a. il-galam il-as^ffar
 the-pen(m-s) the-yellow(m-s)
 ‘The yellow pen’
- b. il-sayyaara il-s^fafra
 the-car(f-s) the-yellow(f-s)
 ‘The yellow car’
- c. il-glaam il-s^fufur
 the-pen(m-pl) the-yellow(m-pl)
 ‘The yellow pens’
- d. il-sayyar-aat il-s^fufur
 the-car(f-pl) the-yellow(f-pl)
 ‘The yellow cars’

Degree adverbs can be used along with adjectives in both MSA and JA, as seen in (20) and (21) respectively .

- (20) fatatu-n jamiilatu-n jiddan (MSA)
 girl(f-s-nom) beautiful(f-s-nom) very
 ‘A very beautiful girl’

- (21) bint ħilweh ktiir
 girl(f-s) beautiful(f-s) very
 ‘A very beautiful girl’

There are two main approaches to the syntax of attribute adjectives. On the one hand, a number of researchers assume that adjectives occupy the specifier position of distinct functional projections inside the DP (Cinque, 1994; Fassi-Fehri, 1999; Scott, 2002; Shlonsky, 2004; Laenzlinger, 2005; Cinque,

2010, among others). On the other hand, others assume that adjectives are adjoined to functional projections (Valois, 1991; Svenonius, 1994; Rijkhoek, 1998; Kremers, 2003, among others). A representative of the first approach in Arabic is found in Fassi-Fehri (1999) who argues that attributive adjectives in MSA observe the Mirror Image Order (MIO). Fassi-Fehri notes that the order of postnominal adjectives is the opposite of the order found in languages with prenominal adjectives (e.g. English, French), as the English glosses show in (22).

- (22) l-kitaabu l-ʔaxdaru s^ʕ-s^ʕayyiru
the-book(m-s-nom) the-green(m-s-nom) the-little(m-s-nom)
‘The little green book’
(Fassi-Fehri 1999:107)

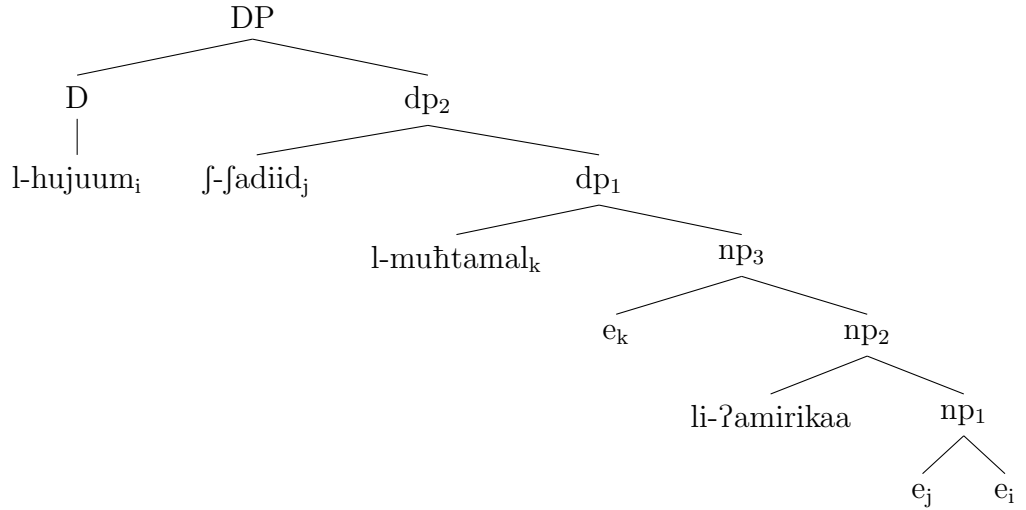
According to Fassi-Fehri (1999), switching the order of the adjectives in (22) results in ungrammaticality.⁸ To account for the MIO, Fassi-Fehri (1999) argues that adjectives are generated in multiple specifier positions to the left of the noun. Adjectival agreement is archived via movement of the AP to the specifier of an agreement functional projection dubbed *dp* by Fassi-Fehri (1999). Finally, the surface postnominal order is derived via N-to-D movement past modifying adjectives (23).⁹

- (23) a. l-hujuum-u ʃ-ʃadiid-u l-muhtamal-u
the-attack(m-s-nom) the-violent(m-s-nom) the-probable(m-s-nom)
li-ʔamiriikaa
of-America
‘The probable violent attack by the U.S.’

⁸Note that Fassi-Fehri (1999) does not provide the contrasting ungrammatical examples of (22).

⁹See Shlonsky (2004) for a similar analysis of attributive adjectives in Semitic which employs roll-up movement.

b.



(Adapted from Fassi-Fehri 1999:124)

For the purpose of this thesis, I adopt the proposal in Kremers (2003) that adjectives in Arabic are adjoined to the right of the noun. In chapter 2, I show that adjectives can adjoin to different functional projections inside the extended nominal projection yielding different agreement patterns. My choice of the adjunction analysis is based on the fact that the MIO, which is the primary motivation behind Fassi-Fehri's (1999) analysis, is not observed in JA. Speakers of JA appear to show no specific preference for a particular order, as seen in (24).¹⁰

- (24) a. il-kitaab il-axdar il-zyiir
 the-book(m-s) the-green(m-s) the-little(m-s)
 ‘The little green book’
- b. il-kitaab il-zyiir il-axdar
 the-book(m-s) the-little(m-s) the-green(m-s)
 ‘The little green book’

All in all, adopting the adjunction analysis of attributive adjectives has only one consequence: movement of the noun past the modifying adjectives is not required to derive the attested postnominal order. This issue has no direct

¹⁰The traditional Arab grammarian Hassan (1975:496 vol. 3) notes that adjectives are freely ordered in MSA.

effect on the overall discussion of nominal ellipsis in this thesis. Therefore, I maintain the adjectives can adjoin to different functional projections above the noun.

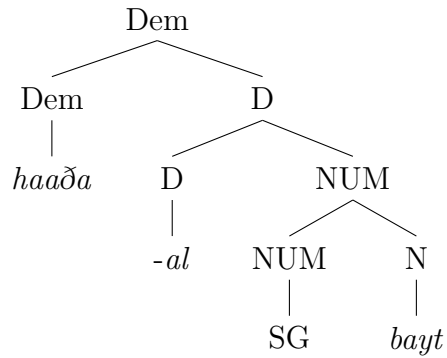
1.2.6 Demonstratives

In JA, demonstratives can occur in pre or post-nominal positions. In both cases the definite article (*il-*) must appear on the noun. There are two demonstratives in JA: *hada* (proximal demonstrative), and *hadak* (distal demonstrative) both of which inflect for number and gender.

- (25) a. *hada* / *hadak* *il-walad* *nijih* *fi-il-imtihaan*
 this(m-s) / that(m-s) the-boy(m-s) passed(3-m-s) in-the-test(m-s)
 ‘This/that boy passed the test’
- b. *hai* / *hadiik* *il-bint* *nijhat* *fi-il-imtihaan*
 this(f-s) / that(f-s) the-girl(f-s) passed(3-f-s) in-the-test(m-s)
 ‘This/that girl passed the test’
- c. *hadool* *il-wlaad* *nijhuu* *fi-il-imtihaan*
 these(m-pl) the-boys(m-pl) passed(3-m-pl) in-the-test(m-s)
 ‘These boys passed the test’
- d. *hadlaak* *il-banaat* *nijhuu* *fi-il-imtihaan*
 those(f-pl) the-girls(f-pl) passed(3-m-pl) in-the-test(m-s)
 ‘These girls passed the test’

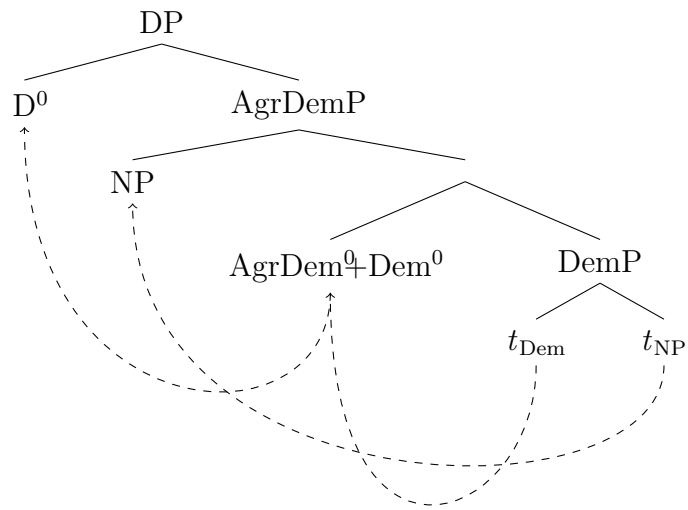
Regarding the syntax of demonstratives in Arabic, there are two analyses available in the literature. [Kremers \(2003\)](#) and [Shlonsky \(2004\)](#) argue that prenominal demonstratives are heads of a demonstrative projection (Dem), whereas postnominal demonstratives are modifiers. The two analyses differ in the positioning of Dem. For [Kremers \(2003\)](#), Dem projects above D (26), whereas for [Shlonsky \(2004\)](#) Dem projects below D, and then it undergoes movement to D (27).

- (26) a. haað̣a al-bayt (MSA)
 this(m-s) the-house(m-s)
 ‘This house’
 b.



(Kremers 2003:67)

(27)



(Shlonsky 2004:1502)

As concerns the agreement features on the demonstrative, Kremers (2003) assumes that these features are on the demonstrative itself. In Shlonsky’s

(2004) system, agreement between the noun and the demonstrative occurs in a Spec-Head configuration inside an Agr projection. Under Kremers’s (2003) analysis, the order Dem+D+N is clearly accounted for since demonstratives precede the definite article. Shlonsky (2004), on the other hand, assumes that demonstratives adjoin to D. In this work, I adopt Kremers’s (2003) analysis and assume that prenominal demonstratives head their own functional projection DemP above DP.¹¹

As for postnominal demonstratives, both Kremers (2003) and Shlonsky (2004) assume that postnominal demonstratives are modifiers similar to adjectives. Postnominal demonstratives behave similarly to adjectives in that they agree with the modified noun in number and gender. I adopt this idea and assume that demonstratives are modifiers and are right adjoined to the noun.

1.2.7 Quantifiers

Weak quantifiers (*ktiir* (many/much) and *fway* (few)) in JA can occur pre- or postnominally. In prenominal position, the quantifier does not agree with the noun, whereas in postnominal position the quantifier agrees with the noun in number and definiteness. The following examples illustrate this for the quantifier *ktiir* (many/much):

- (28) a. *ktiir banaat*
 many girls(f-pl)
 ‘Many girls’
- b. *ktiir mai*
 much water
 ‘Much water’
- c. *il-banaat il-ktaar*
 the-girls(f-pl) the-many(f-pl)
 ‘The many girls’

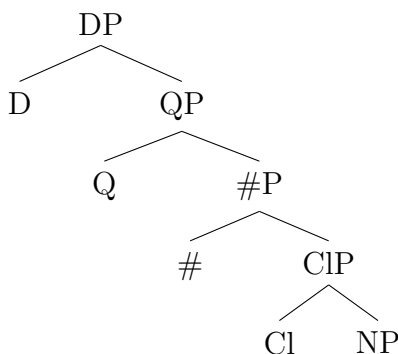
¹¹Word order facts seem to support Kremers’s (2003) analysis of prenominal demonstratives. Prenominal demonstratives in JA precede the definite article, but do not affix onto it as claimed by Shlonsky (2004).

Note that the quantifier *ktiir* can either mean much or many. If *ktiir* is followed by a count noun, it means *many* (28a), whereas when followed by a mass noun, *ktiir* means *much* (28b).

1.3 Functional Projections Assumed

The functional structure of the DP has been the topic of much debate in the past several decades. Several functional projections have been postulated inside the DP with notable crosslinguistic variation regarding the presence vs absence of certain functional projections (e.g. the universality of the functional category D). In this work, I adopt the structure of the DP in (29).

(29)



Following Abney (1987) and Szabolcsi (1994), I adopt the idea that DP is the maximal projection of the noun phrase where reference is encoded. This projection is occupied by the definite article *il-* (the) in JA. As mentioned above, indefinite nouns in JA are not marked at all. I assume that, with indefinites, the D head is present but is phonologically null.

The Classifier Phrase (CIP) is the projection which hosts classifiers and an interpretable number feature.¹² Borer (2005) assumes that the count vs mass distinction is not lexically specified, but is grammatically constructed. For her, the presence of classifiers, in languages that have them, signals the presence of the classifier projection and the DP is specified as count as opposed to

¹²Note that CIP is the equivalent of Ritter's (1991) NumP.

mass. In Chinese, for instance, in the presence of a classifier, a count reading is available (30), whereas in the absence of a classifier, the reading available is mass (31).

- (30) yi ge ren (Chinese)
 one CL person
 ‘One person’
 (Borer 2005:86)

- (31) shenme qian (Chinese)
 what money
 ‘Much money (shenme: literally ‘what’)’
 (Borer 2005:86)

Classifiers have the function of dividing mass nouns into units, which then can be counted by numerals. In languages that do not have classifiers (e.g. English), Borer (2005) argues that plural marking does the portioning function. Evidence for this view comes from the fact that plural marking and classifiers seem to be in complementary distribution cross-linguistically (e.g. T’sou, 1976; Chierchia, 1998). Borer (2005) argues that this complementary distribution is captured under the assumption that plurals and classifiers compete for the same slot: Cl.¹³ For JA, I assume that sound plurals and broken plurals are realized under the Cl head.¹⁴ Moreover, the Cl head also hosts the morphological classifier *ah* to be discussed in detail in chapter 2.

The Quantity Phrase (QP) hosts weak quantifiers such as *some* and *few* (Borer, 2005).¹⁵ This projection quantifies over mass or count nouns depending on the value of the Cl head,¹⁶ which could be mass or count. In JA, I assume that this projection hosts quantifiers like *ktiir/fway* (many/few).

¹³The complementary distribution of plurals and classifiers is discussed in detail in chapter 2.

¹⁴See Zabbal (2002) and Acquaviva (2008) for a detailed discussion of Arabic plurals.

¹⁵Note that QP is the equivalent of Borer’s (2005) #P. I use the label QP to avoid confusion with the pluralizing function #.

¹⁶Unlike Borer (2005), who assumes the absence of ClP with mass nouns, I assume that ClP projects with both mass and count nouns. Following Alexiadou and Gengel (2012), I assume that the difference between mass and count is featural. The Cl head could be specified as [+count] or [-count] giving rise to count or mass readings respectively.

#P is a pluralizing functional projection first proposed by [Ouwayda \(2014\)](#). Following the arguments of [Ouwayda](#), I assume that # is present in definite DPs and in DPs containing numerals. This projection has the effect of pluralizing elements that merge above it. The projection also hosts a special kind of plural marking known as the Plural of the Singulative (PS) ([Ouwayda, 2014](#)). Following [Ouwayda](#), I assume that the PS is realized in # in the presence of a determiner and numerals 3-10. In chapter 2, I motivate the presence of this projection in JA DPs.

1.4 Thesis Overview

The remainder of this thesis is structured as follows.

In chapter 2, I discuss the numeral system in JA. The goal of the chapter is to set the stage for the discussion of nominal ellipsis inside numeral-containing DPs in chapter 3. I argue in favour of a structural division between two classes of numerals in JA: numerals 3-10 and numerals higher than 10. The structural division I argue for gives rise to different agreement types on verbs and modifying adjectives. The chapter also discusses the plural of the singulative (PS) puzzle. Following [Ouwayda \(2014\)](#), I show that this type of plural marking is semantically and syntactically different from other plurals in the language.

Chapter 3 discusses nominal ellipsis in JA. I discuss how ellipsis proceeds inside simple and numeral-containing DPs. As I will demonstrate, ellipsis takes place in the DP at two levels, and a morphologically or semantically oriented approach to ellipsis licensing cannot capture the full set of facts in JA. I also provide a unified account of both ellipsis and pronominalization by showing that pronominalization arises as a by-product of the application of ellipsis at the NP level.

In chapter 4, I discuss adnominal possessives in JA and their behaviour under nominal ellipsis. I show that Construct State and Free State constructions behave differently under ellipsis, and that a uniform structural analysis of the two constructions fails to capture the ellipsis facts in JA. Therefore, I argue for two distinct structures for the CS and FS, which not only accounts for the ellipsis facts observed with these constructions, but can also account

for their main properties. I also discuss a third type of adnominal possessives in JA known as the *Um/Abu* construction, and argue that it has a structure similar to the FS.

Finally, in chapter 5, I summarise the main ideas of the thesis, and suggest some future studies.

Chapter 2

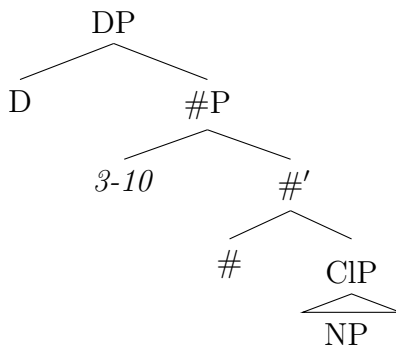
The Numeral System in Jordanian Arabic

The purpose of this chapter is to discuss the numeral system in JA. The chapter paves the way for the discussion of ellipsis inside numeral-containing DPs, which is a task I undertake in chapter 3.¹ Two classes of cardinals in JA are analyzed in this chapter: (i) numeral 3-10; and (ii) numerals higher than 10 (transdecimal numerals, ‘TD-numerals’ for short).² I argue that the two classes of numerals occupy different structural positions in the DP. In particular, I show that numerals 3-10 are quantifiers that merge in Spec-#P, which is a functional projection that has the effect of pluralizing elements that merge above it (Ouwayda, 2014) (32). For TD-numerals, I argue that these numerals merge in Spec-ClP and restrict the Cl head to singular. Additionally, these numerals may undergo optional movement to Spec-#P (33a). When # does not project, the numeral remains in Spec-ClP and no plural marking takes place at any point in the derivation (33b).

¹In this chapter, I focus on cardinals in JA. See Appendix A for a discussion of ordinals.

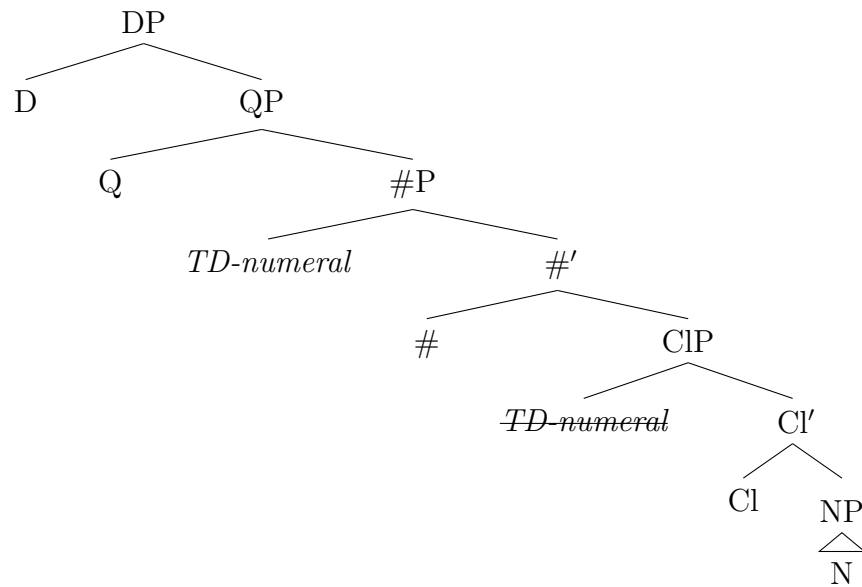
²I borrow the abbreviation TD-numerals from Landau (2016).

(32) *Numerals 3-10*

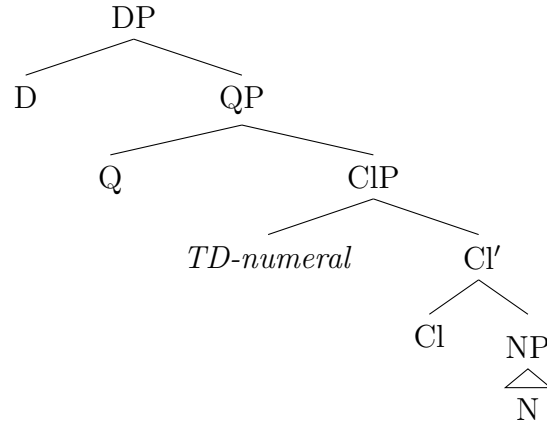


(33) *TD-numerals*

a.



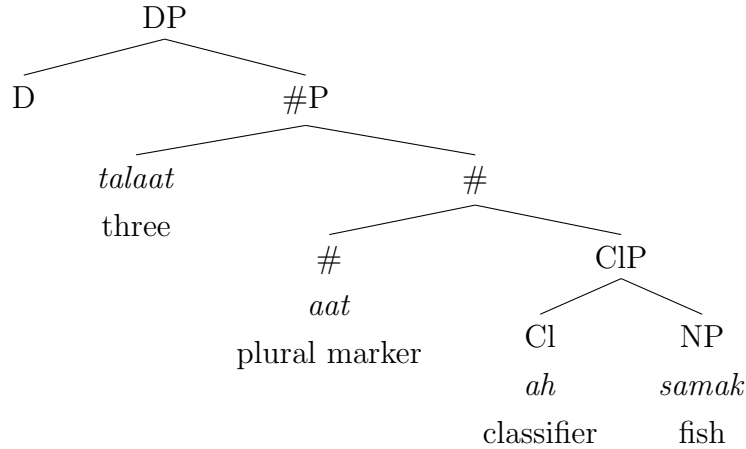
b.



I show that there is an empirical consequence of the structural division between the two classes of numerals: numerals 3-10 allow for both singular and plural marking on adjectives, but must show plural agreement on verbs since #P always projects with these numerals. By contrast, TD-numerals allow for optionality with respect to plural marking on both adjectives and verbs depending on whether the numeral moves to # or not.

The chapter also discusses the plural of the singulative (PS) puzzle, where the morphological classifier *-ah* seems to co-occur with the plural marker *aat* (34a). The co-occurrence of these two elements constitutes a counterexample to the mainstream assumption that plural marking and classifiers are in complementary distribution (e.g. T'sou, 1976; Chierchia, 1998; Borer, 2005). Following Ouwayda (2014), I show that the PS is not a real plural, and that it is realized under #, but not under Cl where regular plural marking takes place. I also provide new data from JA to show that in addition to numerals 3-10 and the definite article, the PS is licensed only by certain types of adjectives inside an indefinite DP (34b).

- (34) a. talaat samak-**ah-aat**
 three(m-s) fish-Cl-Pl
 ‘Three fishes’
 b.



The structure of the chapter is as follows. Section 2.1 explores the properties of cardinals in JA. In section 2.2, I present my analysis of cardinals in JA, which is partially based on [Ouwayda’s \(2014\)](#) analysis of numerals in Lebanese Arabic. In section 2.3, I introduce and analyze the plural of the singulative puzzle. Section 2.4 concludes the chapter.

2.1 Cardinals in JA: Plural Marking and Agreement

In this section, I explore the properties of cardinals in JA. I focus on plural marking and agreement inside cardinal-containing DPs.

Numerals 3-10 always take plural nouns, as the ungrammaticality of (35b) shows.³

- (35) a. talaat sayyaraat / kutub
 three(m-s) car(f-pl) / book(m-pl)
 ‘Three cars/books’

³In glosses, I will use ‘s’ with all numerals to indicate that these numerals are morphologically singular. That is, all numerals do not bear overt plural morphology. I will adopt what I take to be the null hypothesis and assume that all numerals - except for 1 - are semantically plural.

- b. *talaat sayyara / kitaab
 three(m-s) car(f-s) / book(m-s)
 ‘Three car/book’

Nouns following TD-numerals, on the other hand, must be singular, as seen in (36a) and (36b).

- (36) a. xamsiin kitaab/*kutub
 fifty(m-s) book(m-s)/book(m-pl)
 ‘Fifty books’
 b. xamsiin sayyaara/*sayyaraat
 fifty(m-s) car(f-s)/car(f-pl)
 ‘Fifty cars’

Ouwayda (2014) observes that the lack of plural marking following TD-numerals does not stop at the noun in Lebanese Arabic (LA). She notes that when the noun is indefinite, adjectives and verbs occurring with TD-numerals can be optionally either singular (37), or plural (38).

- (37) tleetiin walad akal ?aaleb gâteau keemel (LA)
 thirty(m-s) child(m-s) ate(3-m-s) pie(m-s) cake(m-s) whole
 ‘Thirty children ate a whole cake’
 → thirty children each ate a cake (distributive)
 ↗ thirty children all shared one cake (collective)

(Modified from Ouwayda, 2014:114)

- (38) tleetiin walad akal-uu ?aaleb gâteau keemel (LA)
 thirty(m-s) child(m-s) ate(3-m-pl) pie(m-s) cake(m-s) whole
 ‘Thirty children ate a whole cake’
 → thirty children each ate a cake (distributive)
 → thirty children all shared one cake (collective)

(Modified from Ouwayda, 2014:114)

Ouwayda shows that the singular agreement in (37) forces a distributive reading such that each boy ate one cake. On the other hand, the plural agreement in (38) is neutral between collective (i.e. the boys all ate one cake) and distributive interpretations.

With definite NPs, however, agreement must be plural on both verbs and adjectives, as in (39).

- (39) t-tleetiin walad akal-uu/*akal ?aaleb gateau
the-thirty(m-s) child(m-s) ate(3-m-pl)/*ate(3-m-s) pie(m-s) cake(m-s)
‘The thirty children together/each ate a whole cake’ (LA)

(Modified from Ouwayda, 2014:165)

The same is true of JA. Both adjectives and verbs can be either plural marked or non-plural marked when the noun is indefinite, whereas agreement is uniformly plural with definite nouns. The following examples illustrate this:

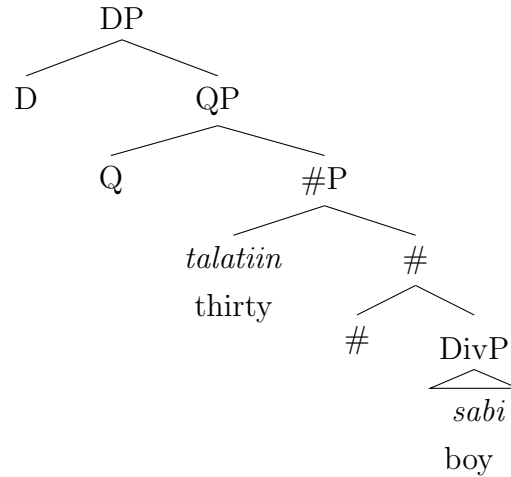
- (40) a. xamsiin walad munaDDam akal kake
fifty(m-s) boy(m-s) organized(m-s) ate(3-m-s) cake(m-s)
‘Fifty organized boys ate cake (distributive)’
b. xamsiin walad munaDDam-iin akalu kake
fifty(m-s) boy(m-s) organized(m-pl) ate(3-m-pl) cake(m-s)
‘Fifty organized boys ate cake (collective)’
(41) a. il-xamsiin walad il-munaDDam-iin akalu kake
the-fifty(m-s) boy(m-s) the-organized(m-pl) ate(3-m-pl) cake(m-s)
‘The fifty organized boys ate cake (collective)’
b. *il-xamsiin walad il-munaDDam akal kake
the-fifty(m-s) boy(m-s) the-organized(m-s) ate(3-m-s) cake(m-s)
‘The fifty organized boys ate cake (distributive)’

Ouwayda (2014) proposes that this relates to the presence/absence of a pluralizing functional projection #P.⁴ She argues that #P is licensed in two

⁴The pluralizing function #P is similar to Pesetsky’s (2013) feminizing head in Russian, which has the effect of marking everything above it as feminine.

ways: either by the presence of a numeral, or by the presence of a definite determiner. However, there are cases where a numeral is present but #P is unlicensed. Those cases involve distributive interpretations, as in (37).⁵ The relevant structures are given in (42) and (43).⁶

(42)

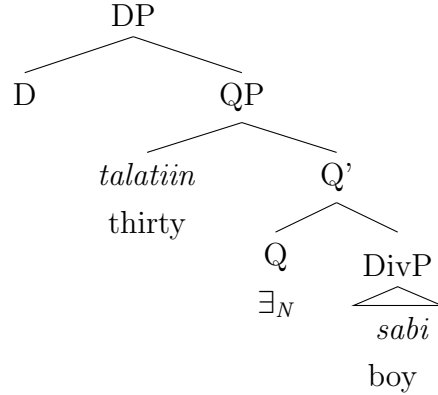


(Modified from Ouwayda, 2014:1)

⁵As noted by Ouwayda (2014), the availability of distributive interpretation with TD-numerals poses problems for Ionin and Matushansky’s (2006) proposal that all numerals are modifiers of type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$. According to (Ouwayda, 2014:195) the cardinals as modifiers view “predict that numeral containing DPs will behave like what one would typically expect of a syntactically and semantically plural DP: allowing collective interpretation”. However, this is not the case since in the absence of plural marking the only reading available is distributive. The same line of reasoning applies to the idea that cardinals are predicates of type $\langle e,t\rangle$ (Partee, 1987).

⁶DivP corresponds to ClP in the present analysis.

(43)



(Modified from Ouwayda, 2014:1)

In (42), #P has the effect of making everything above it plural, and a collective interpretation arises. Elements merging below #P are non-plural marked. For instance, adjectives with idiosyncratic meaning are generally taken to have a low merge position (Borer, 2008). Ouwayda (2014) shows that adjectives with idiosyncratic meaning must be singular in order to maintain the idiosyncratic meaning, as seen in (44).⁷

- (44) a. tleetiin mhandes madani (LA)
 thirty(m-s) engineer(m-s) civil(m-s)
 ‘Thirty civil engineers’
- b. *tleetiin mhandes madaniy-iin
 thirty(m-s) engineer(m-s) civil(m-pl)
 ‘Thirty civil engineers’

(Ouwayda, 2014:122)

In (43), on the other hand, #P is missing, and a distributive interpretation arises. Also, agreement is uniformly singular. The numeral merges directly in Spec-QP restricting an existential quantifier. The quantifier-like treatment of these numerals accounts for the fact that with definite NPs, all elements must be plural marked. According to Ouwayda (2014), the ban on non-plural

⁷The example in (44b) is also ungrammatical in JA.

marked elements with definite NPs is because the definite determiner is incompatible with the existential quantifier \exists_N , thus accounting for the ungrammaticality of (45b).

- (45) a. il-xamsiin walad il-twaal akalu pizza
 the-fifty(m-s) boy(m-s) the-tall(m-pl) ate(3-m-pl) pizza(f-s)
 ‘The fifty tall boys ate pizza’
- b. *il-xamsiin walad il-tawiil akal pizza
 the-fifty(m-s) boy(m-s) the-tall(m-s) ate(3-m-s) pizza(f-s)
 ‘The fifty tall boys ate pizza’

However, with definite NPs even elements merging below $\#P$ (e.g. idiosyncratic adjectives) must be plural. Ouwayda (2014:222) assumes that “all adjectives, even the ones merging below $\#$, must be plural marked in definite DPs, because agreement inside a DP is mediated by D (Schoorlemmer, 2009), such that only in definite DPs, D inherits plurality from $\#$, and then passes it on to all adjectives which must then be plural marked even if they merge below the pluralizer”. Compare (46a) to (46b).⁸

- (46) a. *il-xamsiin muhandis il-madani
 the-fifty(m-s) engineer(m-s) the-civil(m-s)
 ‘The fifty civil engineers’
- b. il-xamsiin muhandis il-madanyiin
 fifty(m-s) engineer(m-s) the-civil(m-pl)
 ‘The fifty civil engineers’

Supporting evidence for the pluralizing function analysis comes from multiple adjectives. Ouwayda (2014) shows that mixed agreement is possible provided that the adjective linearly closer to the noun is non-plural marked (47).⁹

⁸Ouwayda (2014) adopts Borer’s (2005) analysis of the definite article. In chapter 3, I discuss Borer’s (2005) analysis in detail.

⁹Ouwayda (2017) extends her analysis to Western Armenian numerals, which exhibit similar behaviour to TD-numerals in LA.

- (47) a. tleetiin telmiiz mnazzam kesleen-iin (...ḥtajj-uu)
 thirty(m-s) student(m-s) organized(m-s) lazy(m-pl) (...complained(3-m-pl))
 ‘Thirty lazy organized students (complained)’
- b. *tleetiin telmiiz mnazzam-iin kesleen (...ḥtajj-uu)
 thirty(m-s) student(m-s) organized(m-pl) lazy(m-s) (...complained(3-m-pl))
 ‘Thirty lazy organized students (complained)’ (LA)
 (Ouwayda, 2014 :121)

Ouwayda (2014) observes that mixed agreement on verbs and adjectives is exclusive to TD-numerals in LA.¹⁰ In JA, however, mixed agreement is also available on adjectives appearing with 3-10, but not with verbs. Consider the following examples, which show how adjectival agreement proceeds with indefinite non-human nouns:

- (48) a. talaat s^ʕuwar jdiidih
 three(m-s) photo(f-pl) new(f-s)
 ‘Three new photos’
- b. talaat s^ʕuwar jdaad
 three(m-s) photo(f-pl) new(f-pl)
 ‘Three new photos’

The above examples show that both plural and singular agreement are possible with indefinite non-human nouns. On the other hand, agreement must be plural when the noun is indefinite human, as seen in (49).

- (49) a. *talaat wlaad munaDDam
 three(m-s) boy(m-pl) organized(m-s)
 ‘Three organized boys’
- b. talaat wlaad munaDDam-iin
 three(m-s) boy(m-pl) organized(m-pl)
 ‘Three organized boys’

¹⁰Ouwayda (2014) assumes that numerals 3-10 and TD-numerals can either merge in Spec-#P or Spec-QP. However, she does not explain why mixed agreement is exclusive to TD-numerals in LA. One can assume that since nouns following numerals 3-10 are always plural, agreement must be plural on verbs and adjectives in LA.

Unlike TD-numerals, agreement on verbs must be plural with numerals 3-10, as seen in (50).

- (50) a. talaat wlaad akalu piitza
 three(m-s) boy(m-pl) ate(3-m-pl) pizza(f-s)
 ‘Three boys ate a pizza’
- b. *talaat wlaad akal piitza
 three(m-s) boy(m-pl) ate(3-m-s) pizza(f-s)
 ‘Three boys ate a pizza’

Summarizing, the above observations show that JA differs from LA in that numerals 3-10 allow both plural and singular agreement only on adjectives. In the next section, I motivate a structural division between numerals 3-10 and TD-numerals.

2.2 The Syntax of Numerals in JA

As illustrated above, numerals 3-10 and TD-numerals show conflicting behaviours with respect to agreement on verbs and plural marking on the following noun which require giving them a separate analysis. In this section, I argue in favour of a structural division between the two classes of numerals.

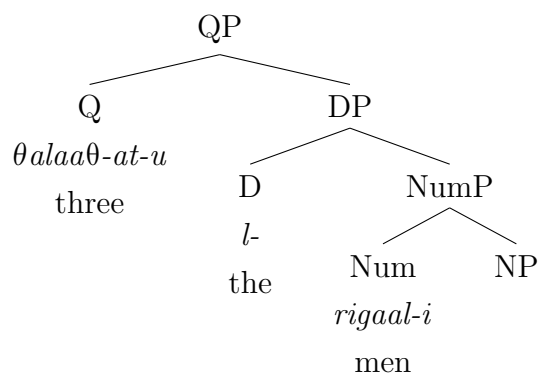
For numerals 3-10, I adopt [Alqarni’s \(2015\)](#) idea that numerals 3-10 are quantifiers in MSA. [Alqarni \(2015\)](#) argues that numerals 3-10 are quantifiers that head their own QP projection above DP. Under this analysis, the positioning of QP above DP is based on the fact that the definite article in MSA cannot occur on the numeral, as seen in (51).

- (51) qaraʔ-tu (*θ-)θalaaθ-at-a l-kutub-i
 read(1-m-s) (the)-three(f-pl-acc) the-book(m-pl-gen)
 ‘I read the three books’

(Modified from [Alqarni 2015:183-184](#))

For [Alqarni \(2015\)](#), the structure of a DP containing numerals 3-10 would be as in (52).

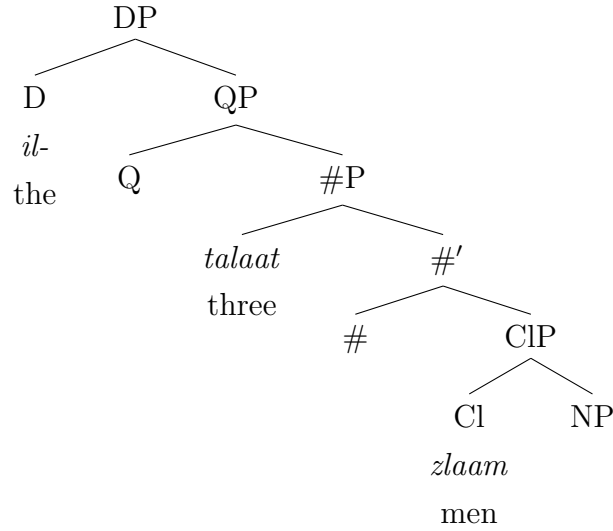
- (52) a. $\theta alaa\theta-at-u$ $l-rigaal-i$
 three(f-s-nom) the-man(m-pl-gen)
 ‘The three men’
 b.



(Modified from [Alqarni 2015:234](#))

I extend this analysis to JA, and argue that the difference between JA and MSA is in the position of the QP. I argue that the QP containing numerals 3-10 merges in Spec-#P in JA. As such, the appearance of the definite article only on the numeral is accounted for since the numeral merges DP-internally below D where the definite article is realized. The structure of the DP containing numerals 3-10 is given in (53).

- (53) a. $il-talaat$ $zlaam$
 the-three(m-s) man(m-pl)
 ‘The three men’
 b.



This structure in (53) is based on Ouwayda’s (2014) analysis of numerals in LA, where she assumes that all numerals can either merge in Spec-#P or Spec-QP giving rise to collective or distributive interpretations respectively. Unlike Ouwayda (2014), however, I argue that numerals 3-10 always merge in Spec-#P. In support of the structure in (53), I provide two arguments based on adjectival and verbal agreement and the availability of the plural of the singulative. In what follows, I will discuss the first argument, and leave the second argument for section 3 where I introduce the plural of the singulative.

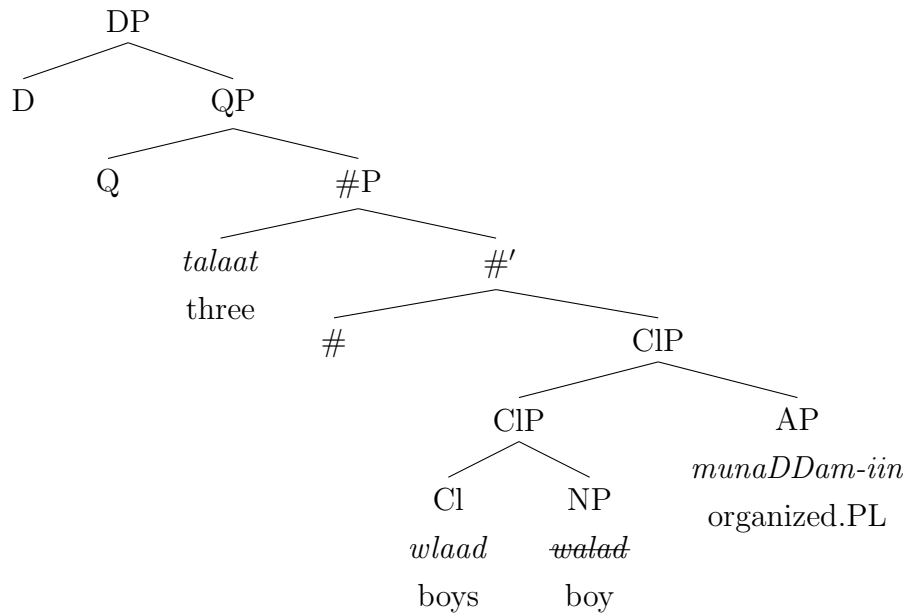
As mentioned in section 1 above, JA is different from LA in that mixed agreement is possible with 3-10 only with adjectives but not with verbs. The examples in (49) and (50) repeated here as (54) and (55) illustrate this.

- (54) a. *talaat wlaad munaDDam
 three(m-s) boy(m-pl) organized(m-s)
 ‘Three organized boys’
- b. talaat wlaad munaDDam-iin
 three(m-s) boy(m-pl) organized(m-pl)
 ‘Three organized boys’

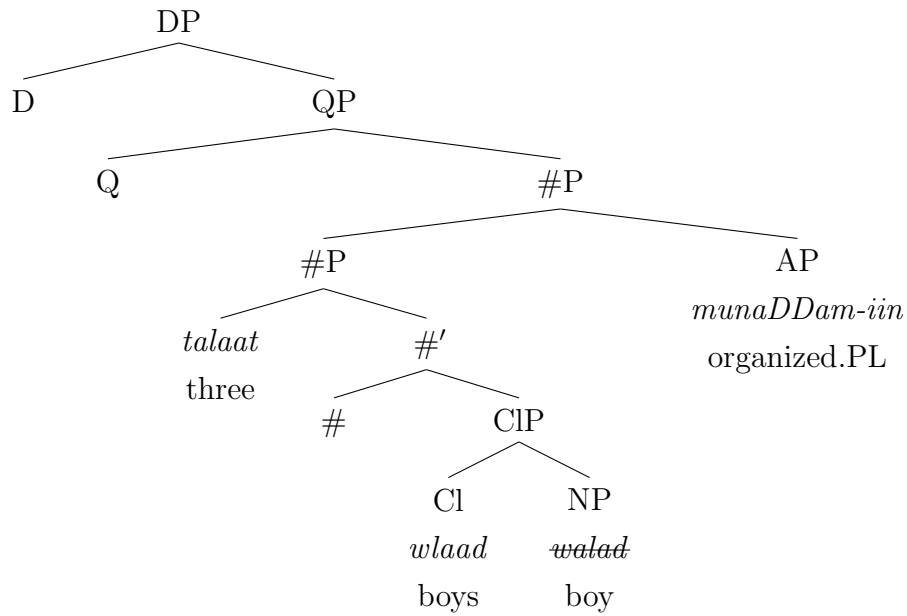
- (55) a. talaat s^ʕuwar jdiidih
 three(m-s) photo(f-pl) new(f-s)
 ‘Three new photos’
- b. talaat s^ʕuwar jdaad
 three(m-s) photo(f-pl) new(f-pl)
 ‘Three new photos’

As stated above, I assume that numerals 3-10 merge in Spec-#P in JA. This predicts that, by analogy to TD-numerals, adjectives can be either singular or plural with numerals 3-10. However, the ungrammaticality of (54a) shows that adjectives cannot appear in the singular form with human nouns. Recall that nouns following 3-10 must appear in the plural form, whereas those following TD-numerals must appear in the singular form. Moreover, adjectives that merge below # agree directly with the noun, whereas those that merge above # obligatory appear in the plural form regardless of the noun’s number morphology. Hence, the ungrammaticality of (54a) is not surprising given that the adjective *munaDDam* (organized.SG) would always be plural marked in both positions (i.e. below or above #). That is, when the adjective merges below #, it would agree with the plural marked noun *wlaad* (boys) in Cl (56), and when it merges above # it would also appear in the plural form, since # has the effect of pluralizing elements that merge above it (57).

(56)



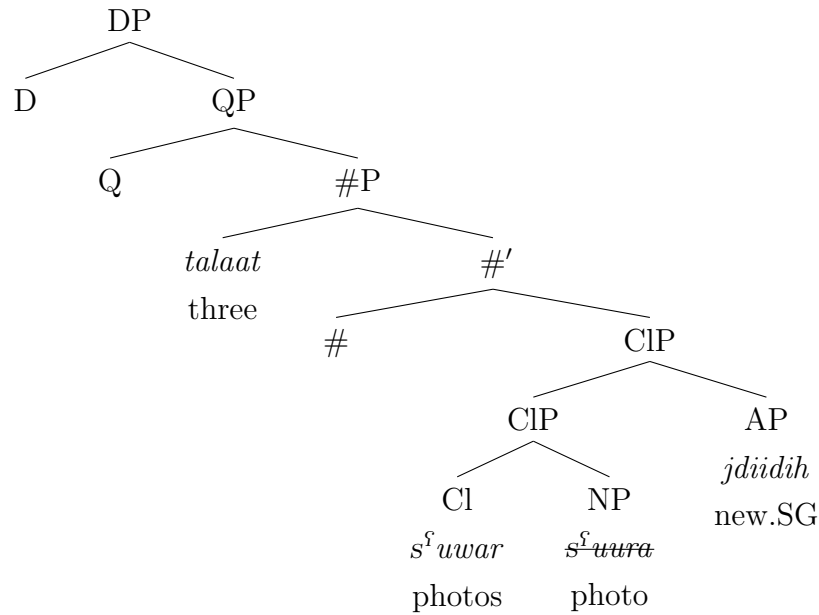
(57)



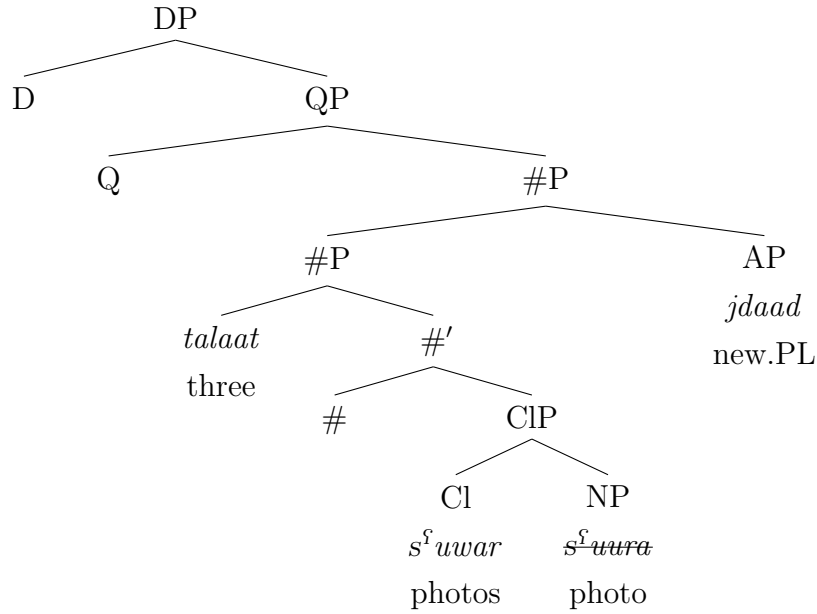
Now, the example in (55) shows that adjectives modifying an indefinite non-human noun can be either singular or plural. The alternation provides further evidence for the idea that adjective might merge below or above #.

More precisely, I argue that in (55a), the adjective appears in the singular form because it agrees directly with the noun. As will be discussed in section 3, non-human nouns trigger feminine singular (deflected) agreement on modifying adjectives (Brustad, 2000; Zabbal, 2002; Acquaviva, 2008). I propose that (55a) is an instance of this type of agreement which reflects a direct agree relation between the noun and the adjective (58). In (55b), on the other hand, the adjective merges above #, and appears in the plural form exhibiting full agreement (59).

(58)



(59)



Support for the view that #P always projects with numerals 3-10 comes from multiple adjectives. By analogy to TD-numerals, mixed agreement with multiple adjectives is possible with numerals 3-10 as long as the adjective closer to the noun is singular, as seen in (60).

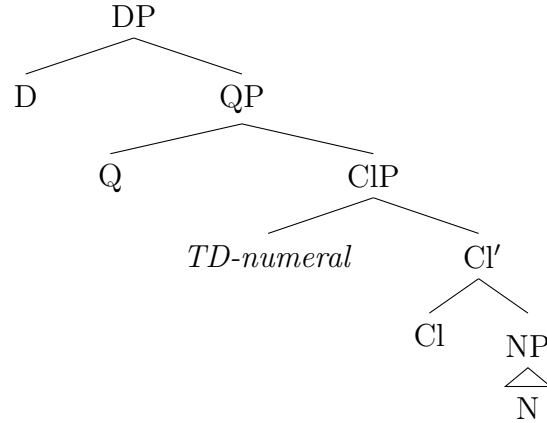
- (60) a. talaat s^uwar jdiidih mlawanaat
 three(m-s) photo(f-pl) new(f-s) coloured(f-pl)
 ‘Three new coloured photos’
- b. *talaat s^uwar jdaad mlawanih
 three(m-s) photo(f-pl) new(f-pl) coloured(f-s)
 ‘Three new coloured photos’

Finally, as stated above, agreement on verbs occurring with 3-10 must always be plural with both definite and indefinite NPs. I assume that the obligatory plural marking on verbs with 3-10 follows from the presence of #.¹¹

¹¹An alternative would be to assume that the obligatory plural marking on verbs following numerals 3-10 is a result of agreement between the verb and the whole DP, which is plural. That is, agreement on the verb would depend on the value of Cl, which is plural following 3-10.

Turning now to TD-numerals, I propose that these numerals merge in Spec-ClP.¹² In this position, the value of Cl is set to the default singular count, as seen in (61).

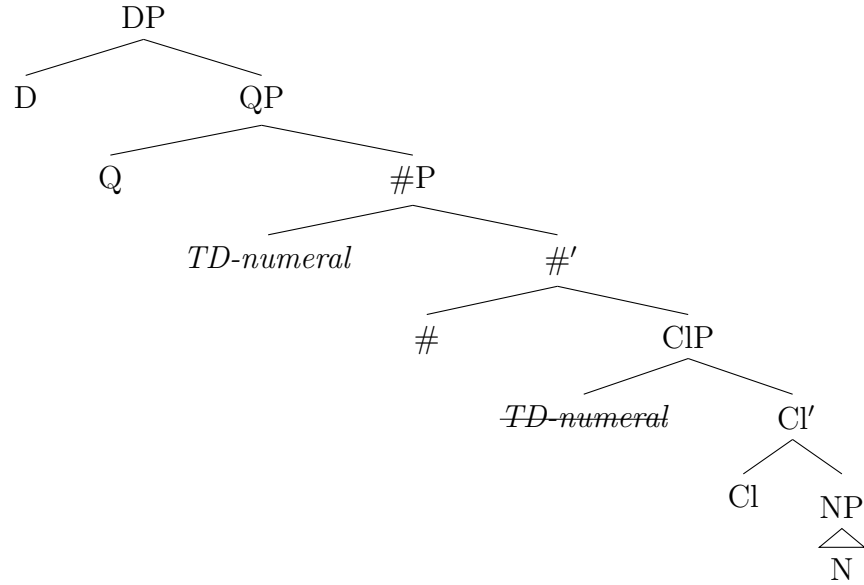
(61)



By contrast, in the presence of plural marking on adjectives and verbs with TD-numerals, I follow [Ouwayda \(2014\)](#) by assuming that the numeral merges in Spec-#P, and in such a case, plural marking on verbs and adjectives that merge above # takes place. Contra [Ouwayda \(2014\)](#), I do not assume that the numeral can merge either in # or in QP, thus giving rise to collective and distributive readings respectively. Instead, I propose that TD-numerals always merge in Spec-ClP, and that these numerals might optionally move to Spec-#P resulting in plural marking on elements that merge above #P, as seen in (62).

¹²Also see [Boskovic and Sener \(2014\)](#) and [Butler \(2012\)](#) for a similar analysis of numerals in Turkish and Yucatec Maya.

(62)



My treatment of TD-numerals is similar to [Borer's \(2005\)](#) treatment of cardinals in Armenian and Hungarian. In Hungarian, for instance, nouns inflect for number, as seen in (63a). In the presence of a cardinal, however, plural marking on nouns is blocked (63b).

- (63) a. a kalap.ok(-at)
 the hat.PL(-ACC)
- b. a két fekete kalap(-ot)
 the two black hat(-ACC)

(Adapted from [Borer 2005:117](#))

[Borer \(2005\)](#) assumes that Hungarian cardinals merge in Div (i.e. Cl), such that the presence of plural inflection and classifiers, which otherwise occupy the Cl position, is blocked following cardinals. She also assumes that cardinals in Hungarian subsequently move and adjoin to #P, which is the canonical position for cardinals in a language like English. In that position, the cardinal performs the counting function. So, cardinals in Hungarian are both dividers and counters (64).¹³

¹³See [Borer \(2005\)](#) for a detailed discussion of division and counting in the DP.

(64) *Dividing cardinals*

[_{DP} [_{#P} két ⟨e⟩_{#(DIV)} [_{CL^{max}} két⟨e⟩_{DIV(⟨#⟩)} [_{NP} kalap]]]]

(Borer 2005:117)

As stated above, adjectives and verbs in JA exhibit mixed agreement patterns when they occur inside DPs containing TD-numerals. Both verbs and adjectives can appear in the singular or plural forms when the NP is indefinite, whereas agreement must be plural in the presence of a definite determiner. The examples in (40) and (41) repeated here as (65) and (66) illustrate this.

- (65) a. xamsiin walad munaDDam akal kake
 fifty(m-s) boy(m-s) organized(m-s) ate(3-m-s) cake(f-s)
 ‘Fifty organized boys ate cake (distributive)’
 b. xamsiin walad munaDDam-iin akalu kake
 fifty(m-s) boy(m-s) organized(m-pl) ate(3-m-pl) cake(f-s)
 ‘Fifty organized boys ate cake (collective)’
 (66) a. il-xamsiin walad il-munaDDam-iin akalu kake
 the-fifty(m-s) boy(m-s) the-organized(m-pl) ate(3-m-pl) cake(f-s)
 ‘The fifty organized boys ate cake (collective)’
 b. *il-xamsiin walad il-munaDDam akal kake
 the-fifty(m-s) boy(m-s) the-organized(m-s) ate(3-m-s) cake(f-s)
 ‘The fifty organized boys ate cake (distributive)’

As alluded to above, I assume that TD-numerals always merge in Spec-CIP, and that a TD-numeral might undergo optional movement to Spec-#P, as seen in (61) and (62) above. The structure in (61) represents the situation where no plural marking is present at any point in the derivation, and a strictly distributive reading arises. On the other hand, the structure in (62) describes the situation where plural marking takes place on verbs and adjectives that merge above #P. One advantage of the present analysis is that it helps us capture the obligatory non-plural marking on nouns following TD-numerals, which is an issue that remained unresolved in Ouwayda (2014).

Turning now to TD-numerals with definite NPs, the examples in (66) show that adjectives must be plural marked in the presence of a definite determiner. As alluded to above, [Ouwayda \(2014\)](#) assumes following [Schoorlemmer \(2009\)](#) that agreement inside the DP is mediated by D. As such, all adjectives must be plural marked, even the ones that merge below #.

Summing up, in this section I have provided support for the pluralizing function # analysis of [Ouwayda \(2014\)](#). It was shown that mixed agreement is not exclusive to TD-numerals in JA.¹⁴

2.3 The Plural of the Singulative

Typically, it is assumed that plural marking and morphological classifiers are in complementary distribution (e.g. [T'sou, 1976](#); [Chierchia, 1998](#); [Borer, 2005](#)). For instance, [Borer \(2005\)](#) observes that even if a language has both plural marking and morphological classifiers, the two never co-occur. The following examples from Armenian illustrate this.

- (67) a. Yergu hovanoc uni-m Cardinal, no classifier, no plural
 two umbrella have-1sg
 ‘I have two umbrellas.’
- b. Yergu had hovanoc uni-m Cardinal, classifier, no plural
 two CL umbrella have-1sg
 ‘I have two umbrellas’
- c. Yergu hovanoc-ner unim Cardinal, no classifier, plural
 two umbrella-PL have-1sg
 ‘I have two umbrellas.’
- d. *Yergu had hovanoc-ner unim Cardinal, classifier, plural
 two CL umbrella-PL have-1sg
 ‘I have two umbrellas.’

¹⁴In chapter 3, I provide further evidence for the structural division between numerals 3-10 and TD-numerals, where I show that the two classes of numerals behave differently under nominal ellipsis, and that such difference is best captured under the analysis proposed here.

Under Borer’s (2005) system plural marking and classifiers compete for the same position: Div (Cl in the present analysis). Thus, the ungrammaticality of (67d) follows from the complementarity view of plural marking and classifiers.

Ouwayda (2014) observes that there are cases in Lebanese Arabic (LA) where plural marking and morphological classifiers seem to co-occur, and as such might constitute a counterexample to the restriction above. Before going into a detailed discussion of those cases, I will first briefly discuss the morphological classifier *ah* in Arabic.

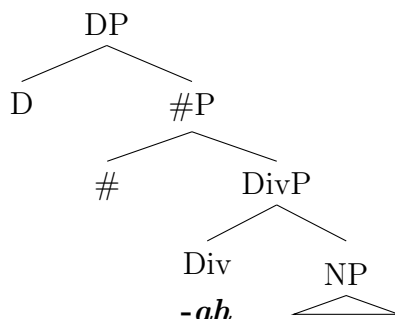
Ouwayda (2014) argues that the suffix *-ah* functions as a classifier when added to certain classes of mass nouns (e.g. food, animals, liquids, grains, materials etc), resulting in a count denotation (68b).¹⁵

- | | | | |
|------|----|--|-------|
| (68) | a. | akalt samak / tuffaḥ | Mass |
| | | ate(1-m-s) fish / apple | |
| | | ‘I ate fish/apples’ | |
| | b. | akalt samak- ah / tuffaḥ- ah | Count |
| | | ate(1-m-s) fish-CLS(f-s) / apple-CLS(f-s) | |
| | | ‘I ate a fish/an apple’ | |

Ouwayda (2014) assumes that the classifier *-ah* encodes countness. Thus, DPs containing the classifier *-ah* have the structure of count nominals. Ouwayda adopts the structure of the DP proposed in Borer (2005), where the count interpretation involves more complexity in the functional structure than the mass reading. As concerns the classifier *-ah*, Ouwayda (2014) proposes the structure in (69), where the classifier *-ah* merges as Div with NP.

¹⁵ Note that when a mass noun is suffixed with the classifier *-ah*, its gender shifts from masculine to feminine. See Zabbal (2002) and Fassi Fehri (2004) for a detailed discussion of the classifier *-ah* and its relation to gender marking.

(69)



(Modified from Ouwayda, 2014 :51)

For [Ouwayda \(2014\)](#), plural marking is an instantiation of Div (cf. [Borer, 2005](#)). This means that there should be no cases where the classifier *ah* appears with plural marking. This is not the case, however. There are two cases where the classifier *-ah* and plural marking co-occur: (i) in the presence of a numeral (70); and (ii) in the presence of a definite determiner (71).

- (70) akalt xams samak-ah-aat
ate(1-m-s) five(m-s) fish-CLS(f-pl)
'I ate five fishes'

- (71) a. akalt il-samak-ah-**aat** Definite NP
 ate(3-m-s) the-fish-CLS(f-pl)
 ‘I ate the fishes’
- b. *akalt samak-ah-**aat** Indefinite NP
 ate(3-m-s) fish-CLS(f-pl)
 ‘I ate fishes’

In (70) and (71a), the classifier *ah* co-occurs with the feminine plural marker *aat*, which constitutes a counterexample to the restriction stated above. Ouwayda (2014), argues that the plural marking above (i.e. *aat*), while looks like other plural marking in LA, is not syntactically and semantically the same. She

provides several arguments to show that the two plural markings are not the same. In what follows, I review her arguments.

First, unlike regular plurals, the distribution of the plural of the singulative (PS henceforth) is restricted to definite DPs (71a), and DPs containing numerals 3-10 (70), but not inside indefinite DPs (71b). Second, it is well-known that pluralization of mass nouns allows both a unit and a kind interpretation. The following examples from English illustrate this.

- (72) I ate breads
 = I ate different kinds of bread (kind interpretation)
 = I ate multiple buns/loaves of bread (unit interpretation)

Like English, regular plurals in Arabic also allow both a kind and a unit interpretation. For instance, the Broken Plural *?asmaak* (fishes) in (73) allows both kind and unit readings.

- (73) akalt ?asmaak
 ate(3-m-s) fish(m-pl)
 = I ate different kinds of fish (kind interpretation)
 = I ate multiple fishes (unit interpretation)

Remarkably, [Ouwayda \(2014\)](#) shows that only the unit interpretation is available for the PS, as seen in (74).

- (74) akalt xams samak-ah-aat
 ate(1-m-s) five(m-s) fish-CLS(f-pl)
 ≠ I ate exactly 5 kinds of fish (e.g. if 2 of each kind, then 10 fish total)
 = I ate are exactly 5 fish (e.g. 3 anchovies, and 2 smelts)

(Modified from [Ouwayda, 2014 :60](#))

Weak quantifiers like *ktiir* (many) and *fway* (few) must be followed by a plural marked noun, be it a sound or broken plural (75).

- (75) ktiir/fway kutub/sayyaraat
 many/few book(m-pl)/car(f-pl)
 ‘Many/few books/cars’

Ouwayda (2014) shows that, unlike regular plurals, the PS cannot co-occur with weak quantifiers, as the ungrammaticality of (76) shows.

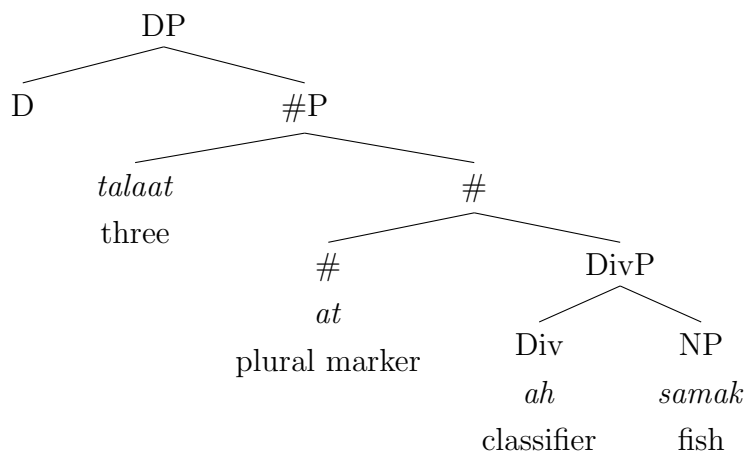
- (76) **ʃeft ktiir samak-ah-aat bil-baħr*
 saw(1-m-s) many fish-CLS(f-pl) in-the-sea
 ‘I saw many fishes in the sea’

(Modified from Ouwayda 2014:69)

The above facts set the PS apart from other types of plurals in the language. Given this, Ouwayda (2014) proposes that there are two types of plural marking on nouns in LA: one that is semantically contentful in Div, and another that is semantically vacuous and marks agreement with numerals when they merge in Spec-#P, as seen in (77).

(77) *The plural of the singulative:*

- a. *talaat samak-ah-aat*
 three(m-s) fish-CLS(f-pl)
 ‘Three fishes’
- b.

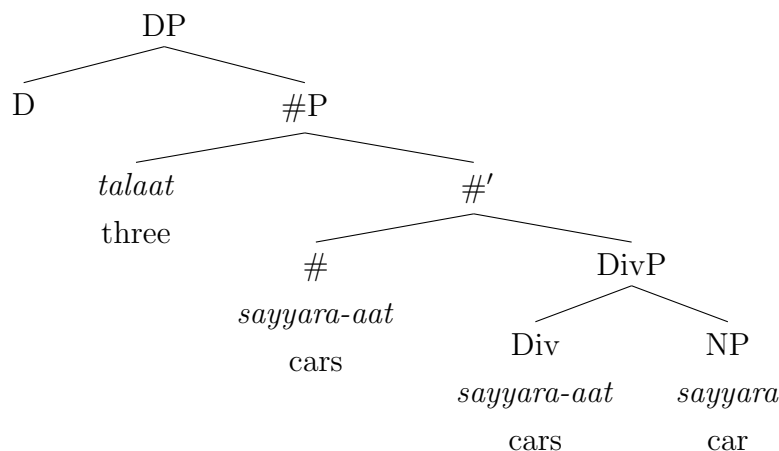


In (77), the mass noun *samak* (fish) undergoes head movement to Div, where it combines with the classifier *ah* yielding *samak-ah* (fish). Subsequently, the noun+classifier sequence moves to # where it merges with the plural marker *aat*, yielding *samak-ah-aat* (fishes).

Ouwayda (2014) assumes that in the presence of a cardinal numeral with non-singulative nouns (e.g. *sayyara* ‘car’), a plural marker already performs the division function (cf. Borer, 2005), and the plural agreement marker in # will be redundant, thus no double marking on the noun takes place, as in (78).

(78) **Regular plural marking in Div:**

- a. talaat sayyaraat
 three(m-s) car(f-pl)
 ‘Three cars’
- b.

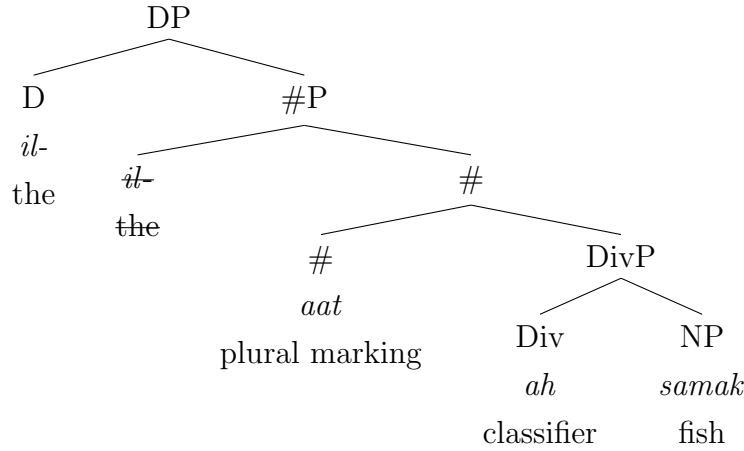


(Modified from Ouwayda, 2014: 84)

As mentioned above, Ouwayda (2014) argues that in addition to numerals, #P is instantiated with definite NPs. According to Ouwayda, the definite article license the PS because the article first merges in Spec-#P (Borer, 2005).¹⁶ The article then moves to the canonical D position. Given this, the example in (70) repeated here as (79a), has the structure in (79b).

- (79) a. akalt il-samak-ah-at
 ate(1-m-s) the-fish-CLS(f-pl)
 ‘I ate the fishes’
- b.

¹⁶Borer’s (2005) analysis of the definite article is discussed in chapter 3.



Summing up, [Ouwayda \(2014\)](#) assumes that there are two types of plural marking in LA: one that merges in Cl, which is semantically contentful, and serves as a count morpheme, and another that occurs in a functional projection #P above CIP, which is attested when plural marking co-occurs with a classifier.

The behaviour of the PS in JA and LA is the same. However, one difference between LA and JA is that the PS can be licensed with indefinite NPs only by plural marked adjectives in JA, as in [\(80a\)](#), but not singular adjectives [\(80b\)](#). The singular adjective *maglieh* (fried) can only modify the singulative form *samak-ah* (fish) [\(80c\)](#).

- | | | | |
|------|----|--|-------------|
| (80) | a. | samak-ah-aat magli-aat
fish-CLS(f-pl) fried(f-pl)
'Fried fishes' | Plural AP |
| | b. | *samak-ah-aat maglieh
fish-CLS(f-pl) fried(f-s)
'Fried fishes' | Singular AP |
| | c. | samak-ah maglieh
fish(f-s) fried(f-s)
'Fried fish' | Singular AP |

One could assume that the ungrammaticality of (80b) is due to a general restriction on having singular adjectives modifying plural nouns. However, singular adjectives can modify other types of plurals in Arabic in what is known as deflected agreement, where adjectives modifying plural nouns appear in the feminine singular form (Brustad, 2000; Acquaviva, 2008). Consider the following examples:

- | | | |
|------|--|------------------|
| (81) | sayyaraat jdiidih
car(f-pl) new(f-s)
‘New cars’ | Sound Plural |
| (82) | asmak maglieh
fish(m-pl) fried(f-s)
‘Fried fishes’ | Broken Plural |
| (83) | tullab s ^ʕ aiʕa
student(m-pl) naughty(f-s)
‘Naughty students’ | Human Collective |

The above data show that deflected (i.e. feminine singular) agreement is possible with sound plurals (81), broken plurals (82), and human collective nouns (83). Given this, the ungrammaticality of (80b) does not seem to follow from a general restriction on having singular adjectives modifying plural nouns.¹⁷

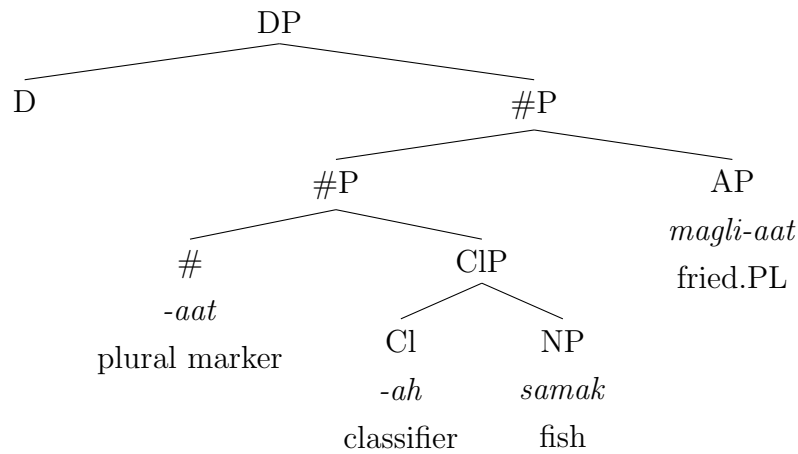
Summing up, there is strong evidence that the PS is semantically and syntactically distinct from other types of plural in JA. Moreover, JA and LA differ in the availability of the PS with indefinite NPs. The PS is licensed by a plural marked adjective with indefinite NPs in JA.

Building on Ouwayda’s (2014) analysis, I argue that in addition to numerals 3-10 and the definite article, the PS is licensed only by adjectives marked with

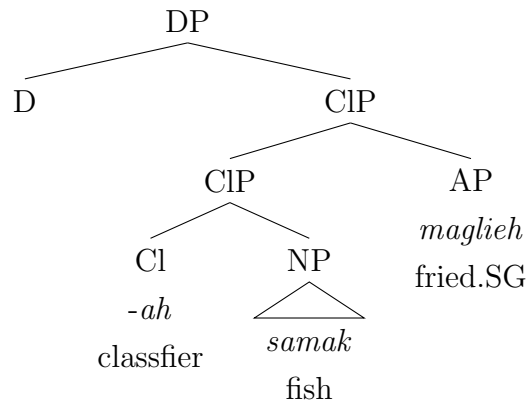
¹⁷ It is worth noticing that Ouwayda (2014) does not provide examples where the adjective is marked with the feminine plural *aat* suffix. Ouwayda (pers.comm.) notes that the feminine suffix *aat* is not attested in LA at all. In LA, plural adjectives modifying masculine or feminine nouns are only marked with the masculine plural suffix *iin*. Unlike LA, the feminine suffix *aat* is widely used in JA.

the *aat* suffix in JA because such adjectives are adjoined to #P. The plural *aat* morpheme in the PS cannot by itself license #. This is because *aat* is not semantically contentful, and is merely an agreement marker. Moreover, singular marked adjectives cannot license the PS because these adjectives merge below the pluralizer, and as such, are not in a position which enables them to license #, hence the ungrammaticality of (80b). Given these assumptions, the structures of (80a) and (80c) are given in (84) and (85).

(84)



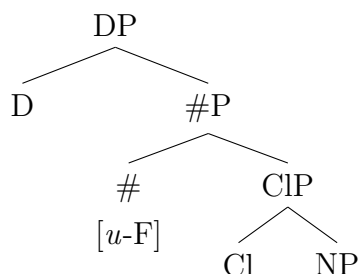
(85)



Formally speaking, we can assume that the head # is endowed with an unvalued formal feature (or open value $\langle e \rangle$) as in Borer (2005) that needs to be

valued via an appropriate valuer in the sense of Adger (2003). These elements are numerals 3-10, the definite article, and adjectives suffixed with the plural *aat* marker, as seen in (86).

(86)



As first observed by Ouwayda (2014), the PS facts presented above further support the idea that numerals 3-10 do not behave like regular quantifiers because otherwise we predict that the PS would be available with regular quantifiers, which was shown not to be true. Thus, the PS facts in both LA and JA support the structural division between cardinals 3-10 and regular quantifiers as first argued by Ouwayda (2014).

Summing up, I have shown that that availability of the PS follows from the availability of elements which can license #, and that in such a case the final *aat* suffix in the PS is merely an agreement marker with such elements.

2.4 Conclusion

In this chapter I have shown that cardinals in JA occupy different structural positions in the DP. In particular, I have shown that numerals 3-10 merge in Spec-#P and that adjectives but not verbs might appear in the singular or plural form. For TD-numerals, it was shown that these numerals merge in Spec-CIP and that the value of the Cl head is set to the default singular count. Thus, nouns following these numerals must remain non-plural marked. It was also shown that TD-numerals might optionally move to Spec-#P resulting in plural marking on elements that merge above #P. The analysis of cardinals in JA draws on the analysis of Ouwayda (2014) for Lebanese Arabic (LA), but

at the same time it solves the issue of why nouns following TD-numerals must remain non-plural marked. Another issue that was discussed in this chapter was the plural of the singulative. It was shown that this type of plural marking behaves differently from other plurals as is the case in LA. Unlike LA, plural marked adjectives can license the PS inside indefinite DPs in JA. In the next chapter, I discuss nominal ellipsis inside simple and numeral-containing DPs. I provide further evidence for the analysis of numerals in JA based on the behaviour of numerals under ellipsis.

Chapter 3

Unifying Ellipsis and Pronominalization in Jordanian Arabic

This chapter examines nominal ellipsis inside JA DPs. The term nominal ellipsis (NE henceforth) is used to refer to an elliptical phenomenon where a nominal constituent seems to be phonologically missing, as the following examples from English and JA show:

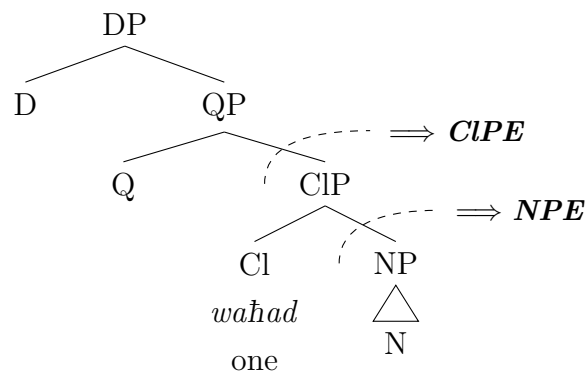
(87) Sam read three books, and I read five ~~books~~

(88) sam gara talaat kutub u ana garait xamsih
sam read(3-m-s) three(m-s) book(m-pl), and I read(1-m-s) five(f-s)
~~kutub~~
book(m-pl)
‘Sam read three books, and I read five’

In both (87) and (88), the noun *books* (or *kutub*) can be elided following the numeral *five* provided that the noun has an appropriate antecedent. Before proceeding further, there is some terminology that requires clarification. I refer to the clause that contains the antecedent of an elided noun as the *antecedent clause*, whereas I refer to the clause that contains the elided noun as the *ellipsis*

the application of NPE, but not CIPE, gives rise to a stranded affix scenario in CL, and that pronominalization is a last resort strategy which takes place to resolve the stranded affix scenario. In support of my analysis, I discuss ellipsis with numerals, showing that ellipsis targets either NP or ClP depending on where the numeral merges in the structure. The following tree illustrates both NPE and CIPE.

(92) *Two types of ellipsis in the DP*



The structure of the chapter is as follows. In section 3.1 I explore how ellipsis proceeds inside simple DPs and inside numeral-containing DPs. Section 3.2 provides an overview of the ellipsis and stranding approach of [Saab and Lipták \(2016\)](#) to be adopted to account for the JA data. In section 3.3 I introduce my analysis of ellipsis in JA DPs, which draws on the analysis presented in the previous section, but which at the same time tries to unify both NE and pronominalization under one account, showing that pronominalization is a by-product of NPE. In section 3.4, I argue against alternative accounts of ellipsis in the DP, and show that they cannot capture the full set of facts in JA. Section 3.5 concludes the chapter.

3.1 Ellipsis in JA DPs: The Data

In this section, I present the ellipsis data to be analysed throughout this chapter. In JA, several elements can appear as remnants of ellipsis in the DP including, adjectives, numerals, prepositional phrases, and possessive particles. In the following subsections, I focus on the first three elements. Ellipsis

inside possessive DPs is discussed in chapter 4. I show that ellipsis is quite productive inside definite DPs, whereas with indefinite NPs, pronominalization is employed only when the noun is indefinite singular.

3.1.1 Ellipsis inside simple DPs

As was discussed in chapter 1, adjectives in JA can only occur postnominally. Moreover, adjectives agree with the noun in number, gender, and definiteness. Adjectives in JA can appear as remnants of ellipsis with both singular (93) and plural nouns (94).

- (93) iftara sam il-sayyara il-s^ʕafra, u ana iftariit
 bought(3-m-s) sam the-car(f-s) the-yellow(f-s), and I bought(1-m-s)
 ~~il-sayyara~~ il-xadra
 the-car(f-s) the-green(f-s)
 ‘Sam bought the yellow car, and I bought the green one’

- (94) iftara sam il-sayyaraat il-s^ʕufur, u ana
 bought(3-m-s) sam the-car(f-pl) the-yellow(f-pl), and I
 iftariit il-sayyaraat il-xudur
 bought(1-m-s) the-car(f-pl) the-green(f-pl)
 ‘Sam bought the yellow cars, and I bought the green one’

The above examples show that the noun *il-sayyara-(aat)* (the car(s)) can be elided with an adjectival remnant. The adjectives *il-xadra* (the-green.SG), and *il-xudur* (the-green.PL) in the ellipsis clause exhibit full agreement in number, gender, and definiteness, as in non-elliptical contexts.

The situation differs when the NP is indefinite. With singular indefinite nouns, a pronominal element *wahad* (one) that resembles English anaphoric *one* must be present (95).

- (95) a. *iftara sam galam as^ʕfar u ana iftariit
 bought(3-m-s) sam pen(m-s) yellow(m-s) and I bought(1-m-s)
 axdar
 green(m-s)
 ‘Sam bought a yellow pen, and I bought a green one’
- b. iftara sam galam as^ʕfar u ana iftariit
 bought(3-m-s) sam pen(m-s) yellow(m-s) and I bought(1-m-s)
 waħad axdar
 one(m-s) green(m-s)
 ‘Sam bought a yellow pen, and I bought a green one’

When the indefinite noun is plural, however, ellipsis is possible with plural adjectival remnants (96a), and the presence of *waħad* is blocked, as the ungrammaticality of (96b) shows.

- (96) a. iftara sam glaam s^ʕufur, u ana
 bought(3-m-s) sam pen(m-pl) yellow(m-pl), and I
 iftariit ~~glaam~~ xudur
 bought(1-m-s) pen(m-pl) green(m-pl)
 ‘Sam bought yellow pens, and I bought green ones’
- b. *iftara sam glaam s^ʕufur, u ana
 bought(3-m-s) sam pen(m-pl) yellow(m-pl), and I
 iftariit **waħad** xudur
 bought(1-m-s) one(m-s) green(m-pl)
 ‘Sam bought yellow pens, and I bought green ones’

There are a number of similarities and differences between anaphoric *one* in English and *waħad* in JA.²

First, like English *one* (97), *waħad* cannot act as an antecedent for a mass noun, as is evident from the ungrammaticality of (98).

²It is not my intention here to analyze *one* pronominalization in English. I’m only using English *one* for comparison purposes. I refer the reader to Günther (2013) for a detailed discussion of *one* in English.

- (98) *iftara sam nabeed aħmar, u fadi iftara
 bought(3-m-s) sam wine red(m-s), and fadi bought(3-m-s)
 waħad abyad
 one(m-s) white(m-s)
 ‘Sam bought red wine, and Fadi bought white one’

(99) a. I bought the car from England and Sam bought the one from Spain.
b. *I met the king of England and Sam met the one of Spain.
(Lakoff 1970: 629)

(100) bait il-walad
house(m-s) the-boy(m-s)
'The boy's house'

(101) *waḥad il-walad
one(m-s) the-boy(m-s)
'The boy's one (house)'

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- (102) iftara sam sayyaara min ingiltra, u ana iftariit
 bought(3-m-s) sam car(f-s) from England, and I bought(1-m-s)
 wahḏih min isbania
 one(f-s) from Spain
 ‘Sam bought a car from England, and I bought one from Spain’

As concerns the differences between English *one* and *wahad* in JA, the example in (103) show that unlike English *one*, *wahad* inflects for gender: *wahad* is used with masculine nouns (103a), whereas *wahḏih* is used with feminine nouns (103b).

- (103) a. waḏih zarga
 one(f-s) blue(f-s)
 ‘A blue one’
 b. wahad azrag
 one(m-s) blue(m-s)
 ‘A blue one’

Also, unlike English *one* (104), *wahad* is not compatible with the definite article, as the ungrammaticality of (105) shows.

- (104) The blue one

- (105) a. *il-wahḏih il-zarga
 the-one(f-s) the-blue(f-s)
 ‘The blue one’
 b. *il-wahad il-azrag
 the-one(m-s) the-blue(m-s)
 ‘The blue one’

Finally, *wahad* cannot be pluralized (106), which is possible for English *one* (107) .

(106) (The) blue ones

- (107) a. *waḥd-aat zurug
 one(f-pl) blue(f-pl)
 ‘Blue ones’
 b. *waḥd-iin zurug
 one(m-pl) blue(f-pl)
 ‘Blue ones’

Summing up, the following table summarizes the similarities and differences between *one* and *waḥad*.

Table 3.1: Main properties of *waḥad* in JA and English *one*

	Anaphoric <i>one</i>	<i>waḥad</i>
Mass antecedent	✗	✗
Argument/adjunct asymmetry	✓	✓
Gender inflection	✗	✓
Number inflection	✓	✗
Compatibility with the definite article	✓	✗

Before concluding this section, it is important to discuss some apparent counterexamples to the claim that *waḥad* is obligatory when ellipsis takes place with an indefinite singular.

There are examples in which adjectives seem to be able to appear with a missing indefinite noun, as seen in (98).

- (108) sam biddu yitjawaz bint gasiirih, u ana bididi
 sam want marry(3-m-s) girl(f-s) short(f-s), and I want
 atjawaz tawiilih
 marry(1-m-s) tall(f-s)
 ‘Sam wants to marry a short girl, and I want to marry a tall one’

The grammaticality of (108) seems to suggest that when an indefinite singular noun is missing, the presence of *waḥad* is optional. I argue, however, that these

instances do not involve ellipsis, but rather nominalization of the adjective. In what follows, I provide several arguments to justify my claim. I will apply the criteria proposed by Giannakidou and Stavrou (1999) to distinguish between nominalization and true ellipsis.³

First, as mentioned in chapter 1 adjectives in non-elliptical contexts can be modified by degree adverbs. The example in (109) shows that the adjective *tawiilih* (tall) can be modified by the degree adverb *ktiir* (very).

- (109) bint ktiir tawiilih
 girl(f-s) very tall(f-s)
 ‘A very tall girl’

The example in (110) shows that when the NP is missing, modification by an adverb is blocked, and in such a case the presence of *waħad* is obligatory.

- (110) a. *sam biddu yitjawaz bint gasiirih, u ana bididi
 sam want marry(3-m-s) girl(f-s) short(f-s), and I want
 atjawaz ktiir tawiilih
 marry(1-m-s) very tall(f-s)
 ‘Sam wants to marry a short girl, and I want to marry a very tall
 girl (Intended meaning)’
 b. sam biddu yitjawaz bint gasiirih, u ana bididi
 sam want marry(3-m-s) girl(f-s) short(f-s), and I want
 atjawaz waħdih ktiir tawiilih
 marry(1-m-s) one(f-s) very tall(f-s)
 ‘Sam wants to marry a short girl, and I want to marry a very tall
 one’

Note that adverbs can modify the adjectival remnant when the NP is definite, as seen in (111).⁴

³Giannakidou and Stavrou (1999) distinguish between two types of elliptical gaps in the DP. The first type is termed *nominal subdeletion*, which according to Giannakidou and Stavrou (1999) is an instance of genuine nominal ellipsis. The second type is known as *substantivization*, which is a kind of adjective nominalization.

⁴When adjectives are modified by degree adverbs, the definite article, which otherwise

- (111) sam biddu yitjawaz il-bint il-gasiirih, u ana biddi
 sam want marry(3-m-s) girl(f-s) short(f-s), and I want
 atjawaz ~~il-bint~~ il-ktiir tawiilih
 marry(1-m-s) the-girl(f-s) the-very tall(f-s)
 ‘Sam wants to marry the short girl, and I want to marry the very tall
 one’

I argue following [Giannakidou and Stavrou \(1999\)](#) that the adjective in (110a) does not accept modification by the degree adverbs because the adjective is nominalized. That is, such adjectives are used as nouns, and as such they cannot be modified since only true modifiers can be modified by degree adverbs ([Giannakidou and Stavrou, 1999](#)).

Another piece of evidence in support of the nominalization analysis of (108) is that not all adjectives can appear on their own without *waḥad*, when there is a missing noun (112).

- (112) a. *sam katab risaalih gasiirih, u ana katabt
 sam wrote(3-m-s) letter(f-s) short(f-s), and I wrote(1-m-s)
~~risaalih~~ tawiilih
 letter(f-s) long(f-s)
 ‘Sam wrote a short letter, and I wrote a long one (Intended meaning)’
 b. sam katab risaalih gasiirih, u ana katabt
 sam wrote(3-m-s) letter(f-s) short(f-s), and I wrote(1-m-s)
 waḥdih tawiilih
 one(f-s) long(f-s)
 ‘Sam wrote a short letter, and I wrote a long one’

It is well-known that ellipsis with adjectival remnants is productive, whereas nominalization of adjectives is not ([Giannakidou and Stavrou, 1999](#)). The ungrammaticality of the example in (112a) further supports this view. So,

appears on the adjective, appears on the degree adverb instead. Such behaviour has led some researchers to assume that adjectives in Arabic are headed by an anaphoric D, which must be bound by a referential D inside the extended projection of the noun ([Fassi-Fehri, 1993](#); [Kremers, 2003](#)).

- (115) sam biddu yitjawaz il-daktora il-ingliziah, u fadi
 sam want marry(3-m-s) the-doctor(f-s) the-english(f-s), and fadi
 biddu yitjawwaz ~~il-daktora~~ il-faransiah
 want marry(3-m-s) the-doctor(f-s) the-french(f-s)
 ‘Sam wants to marry the English doctor, and Fadi wants to marry the
 French doctor’

The absence of the reading in which the adjective *il-faransiah* (the French) refers to a French woman shows that the adjective is a true remnant of ellipsis, and not simply a nominalized adjective, since the content of the elliptical gap depends on the noun in the antecedent clause.

Now compare (114) to (116), which shows the usage of *waḥad* with human nouns.

- (116) sam biddu yitjawaz daktora ingliziah, u fadi biddu
 sam want marry(3-m-s) doctor(f-s) english(f-s), and fadi want
 yitjawwaz waḥdih faransiah
 marry(3-m-s) one(f-s) french(f-s)
 → Sam wants to marry an English doctor, and Fadi wants to marry a
 French one (doctor)
 → Sam wants to marry an English doctor, and Fadi wants to marry a
 French one (woman)

The above example shows that *waḥad* is ambiguous between two readings: one in which *waḥad* refers to a female French doctor, and another reading where *waḥad* refers to a French woman. This ambiguity seems to suggest that *waḥad* is a type of *deep anaphora* (Hankamer and Sag, 1976), or Empty Noun (Panagiotidis, 2003), since it does not necessarily require an antecedent. However, I argue that the use of *waḥad* in the second reading in (116) to refer to a French woman is not anaphoric, but rather, *waḥad* in such a case is used as an indefinite pronoun meaning ‘person’. This is similar to English *one*, when used as a pronoun. Consider the following example adapted from Halliday and Hasan (1976):

(117) If such a one be fit to govern, speak.

(Halliday and Hasan 1976: 102)

The example in (117) shows that *one* in English might be used as a pronoun meaning ‘person’. Halliday and Hasan (1976) note that the use of *one* in (117) is limited to human referents, and that *one* is non-anaphoric, since there is no previous mentioning of the word *person* anywhere.

If *waḥad* in the second reading in (116) is indeed a non-anaphoric pronoun, then we predict that it does not require an antecedent, similarly to English *one* when used as a pronoun. One way to test this would be to investigate the possibility of backward anaphora with *waḥad*. It is well-known that backward anaphora in coordinated structures is not possible with surface anaphora (Hankamer and Sag, 1976). In JA, anaphoric *waḥad* does not allow for backward anaphora (118), whereas pronoun *waḥad* does (119).

(118) *sam iftara waḥad as^ḥfar, u ana iftariit
 sam bought(3-m-s) one(m-s) yellow(m-s), and I bought(1-m-s)
 galam azrag
 pen(m-s) blue(m-s)
 ‘Sam bought a yellow one, and I bought a blue pen’

(119) sam gabal waḥad amriiki, u ana gabalt
 sam met(3-m-s) one(m-s) American(m-s), and I met(1-m-s)
 walad siini
 boy(m-s) Chinese(m-s)
 ‘Sam met an American person, and I met a Chinese boy’

Finally, Giannakidou and Stavrou (1999) show that no comparatives or superlatives are allowed under nominalization, whereas the two are allowed under ellipsis.⁶ In JA, adjectives modifying an indefinite singular cannot form

⁶Comparatives and superlatives are formed in JA through the elative template /aCCaC/ (e.g. *kbīr* ‘big’ → *akbar* ‘bigger’). See Bobaljik (2012) for a discussion of superlatives and comparatives in Arabic.

a comparative on their own without the presence of *waħad*, as the contrast in grammaticality between (120a) and (120b) shows.⁷

- (120) a. *sam gara gissa tawillih, u fadi gara
sam read(3-m-s) story(f-s) long(f-s), and Fadi read(3-m-s)
gissa atwal
story(f-s) longer(f-s)
'Sam read a long story, and Fadi read a longer one (Intended meaning)'
- b. sam gara gissa tawillih, u fadi gara
sam read(3-m-s) story(f-s) long(f-s), and Fadi read(3-m-s)
wahdih atwal
one(f-s) longer(f-s)
'Sam read a long story, and Fadi read a longer one'

Given the above discussion, I assume that ellipsis with adjectival remnants and nominalized adjectives are two separate phenomena. In this thesis, I only concern myself with genuine instances of ellipsis with adjectival remnants. A discussion of the mechanisms of nominalization is beyond the scope of this thesis. I refer the reader to [Borer and Roy \(2010\)](#) for a detailed crosslinguistic investigation of adjectival nominalization.

Summing up, ellipsis with both singular and plural adjectival remnants is possible with definite NPs, whereas when the NP is indefinite singular pronominal *waḥad* must be present. In what follows, I discuss other possible remnants of ellipsis in JA DPs.

As was shown in chapter 1, demonstratives can occur pre or postnominally in JA. Both pre and postnominal demonstratives can appear as remnants of ellipsis, as seen in (121) and (122) respectively. Note that the demonstrative inflects for both number and gender, as is the case in non-elliptical contexts.⁸

⁷The corresponding definite example to (120a) is fully grammatical in JA.

⁸Note that I'm using examples with adjective along demonstratives to show the exact position of the demonstrative before or after the noun. Demonstratives can appear as remnants of ellipsis on their own in JA.

- (121) a. aʃtini hadak ~~il-gamiis~~ il-abyad
 give-me(1-m-s) that(m-s) the-shirt(m-s) the-white(m-s)
 ‘Give me that white (shirt)’
- b. suget hadiik ~~il-sayyaara~~ il-jdiidih
 drove(1-m-s) that(f-s) the-car(f-s) the-new(f-s)
 ‘I drove that new (car)’
- (122) a. aʃtini ~~il-gamiis~~ il-abyad hadak
 give-me(1-m-s) the-shirt(m-s) the-white(m-s) that(m-s)
 ‘Give me that white (shirt)’
- b. suget ~~il-sayyaara~~ il-jdiidih hadiik
 drove(1-m-s) the-car(f-s) the-new(f-s) that(f-s)
 ‘I drove that new (car)’

The presence of *waḥad* is entirely blocked with demonstratives since nouns following demonstratives must be definite, as seen in (123).

- (123) a. *aʃtini hadak il-waḥad il-abyad
 give-me(1-m-s) that(m-s) the-one(m-s) the-white(m-s)
 ‘Give me that white one (shirt)’
- b. *suget hadiik il-waḥdih il-jdiidih
 drove(1-m-s) that(f-s) one(f-s) the-new(f-s)
 ‘I drove that new one (car)’

Weak quantifiers like *kṭiir* (many/much) and *fway* (few) can appear as remnants of ellipsis, as seen in (124).⁹

- (124) a. akalt kṭiir/fway ~~karaz~~
 ate(1-m-s) much/few cherries
 ‘I ate many/few cherries’

⁹As mentioned in chapter 1, the quantifier *kṭiir* has two interpretations. It can mean *much* when followed by a mass noun, or it can mean *many* when followed by a plural noun.

- b. ija ktiir ~~tullab~~ imbarih
 came(3-m-s) many students(m-pl) yesterday
 ‘Many students came yesterday’

Thus far, I have shown how ellipsis proceeds inside DPs containing adjectives, demonstratives, and quantifiers. It was shown that ellipsis and pronominalization are both attested in JA, and that pronominalization is exclusive to indefinite singulars. The following table summarizes the ellipsis data explored so far:¹⁰

Table 3.2: Ellipsis and pronominalization inside simple DPs

DP element	Ellipsis	Pronominalization
Adjectives	✓	✓
Demonstratives	✓	✗
Quantifiers		
<i>ktiir</i> (many/much)	✓	✗
<i>fway</i> (few)	✓	✗

The following section explores how ellipsis takes place inside numeral-containing DPs.

3.1.2 Ellipsis inside numeral-containing DPs

Recall from chapter 2 that there are two classes of cardinal numerals in JA: (i) numerals 3-10, and (ii) TD-numerals. In what follows, I discuss the behaviour of both classes of numerals under ellipsis. The data show that with numerals 3-10 only ellipsis is attested, whereas with TD-numerals both ellipsis and pronominalization are possible.

Ellipsis is possible with numerals 3-10 with both definite and indefinite NPs, as seen in (125).

¹⁰Note that the presence of *wahad* (one) is blocked following the quantifiers *ktiir* and *fway* since nouns following both quantifiers must be plural.

- (125) a. sam gara arbaʕ kutub, u ana garait
 sam read(3-m-s) four(m-s) book(m-pl), and I read(1-m-s)
 xams-**ih** ~~kutub~~
 five(f-s) book(m-pl)
 ‘Sam read four books, and I read five’
- b. sam gara il-arbaʕ kutub, u ana garait
 sam read(3-m-s) the-four(m-s) book(m-pl), and I read(1-m-s)
 il-xams-**ih** ~~kutub~~
 the-five(f-s) book(m-pl)
 ‘Sam read the four books, and I read the five books’

Numerals 3-10 bear the feminine suffix *-ih* when they occur in postnominal position, and when used in isolation. Remarkably, when the following noun is missing, the suffix must appear on the numeral, as the ungrammaticality of (126) shows.

- (126) *sam gara (il)-arbaʕ kutub, u ana garait
 sam read(3-m-s) (the)-four(m-s) book(m-pl), and I read(1-m-s)
 (il)-xams ~~kutub~~
 (the)-five(m-s) book(m-pl)
 ‘Sam read (the) four books, and I read (the) five’

One might entertain the possibility that the numeral in (125) is postnominal, since numerals 3-10 take the feminine form in postnominal position. In other words, we can think of (125) as involving a shift from prenominal 3-10 in the antecedent clause to postnominal 3-10 in the ellipsis clause, thus explaining the shift from masculine to feminine gender. However, in non-elliptical contexts, postnominal 3-10 are blocked with indefinite NPs (Ouwayda, 2014). Therefore, the numeral in (125) cannot be postnominal simply because this position is limited to definite 3-10.

The presence of *wahad* is blocked with 3-10 with both definite and indefinite NPs (127).¹¹

¹¹Note that I’m placing the feminine marker *-ah* between parentheses to show that the

- (127) *sam gara (il)-arbaʕ kutub, u ana garait
 sam read(3-m-s) (the)-four(m-s) book(m-pl), and I read(1-m-s)
 (il)-xams-(**ih**) waħad
 (the)-five(f-s) one(m-s)
 ‘Sam read (the) four books, and I read (the) five ones (Intended reading)’

Ellipsis can also target a noun+modifier sequence with the numeral appearing as a remnant of ellipsis by itself, as seen in (128).

- (128) sam gara talaat kutub jdiidih, u ana
 sam read(3-m-s) three(m-s) book(m-pl) new(f-s), and I
 garait xamsih ~~kutub~~ jdiidih
 read(1-m-s) five(f-s) book(m-pl) new(f-s)
 ‘Sam read three new books, and I read five’

In (128), what is elided is both the noun *kutub* (books) plus the adjective *jdiidih* (new). So, ellipsis can also target a noun+modifier sequence.

When the noun is missing, adjectives appearing with numerals 3-10 must appear in the plural form, as seen (129).

- (129) sam gara arbaʕ kutub, u ana garait
 sam read(3-m-s) four(m-s) book(m-pl), and I read(1-m-s)
 xams-**ih** ~~kutub~~ jdaad/*jdiidih
 five(f-s) ~~book(m-pl)~~ new(m-pl)/new(f-s)
 ‘Sam read four books, and I read five new’

TD-numerals also appear in ellipsis contexts. Unlike 3-10, *waħad* can optionally appear following these numerals, only when the noun is indefinite (130).

presence/absence of *-ah* on the numeral does not change the fact that pronominalization is blocked with 3-10.

- (130) a. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waħad**
 sixty(m-s) one(m-s)
 ‘Sam read thirty books, and Fadi read sixty ones’
- b. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin ~~kitaab~~
 sixty(m-s) book(m-s)
 ‘Sam read thirty books, and Fadi read sixty’

Turning now to definite DPs, the presence of *waħad* is blocked entirely (131), and only ellipsis is possible. Moreover, adjectives must appear in the plural form, as in non-elliptical contexts (132).

- (131) *il-talatiin waħad il-jdaad
 the-thirty(m-s) one(m-s) the-new(m-pl)
 ‘The thirty big ones’
- (132) il-talatiin ~~kitaab~~ il-jdaad/*il-jdiid
 the-thirty(m-s) book(m-s) the-new(m-pl)/the-new(m-s)
 ‘The thirty new books’

Recall from chapter 2 that adjectives occurring inside DPs containing TD-numerals may appear in the singular or plural form when the noun is indefinite. Given this, it is worthwhile to see if plurality of the adjective affects ellipsis. The data in (133) show that when the adjective appears in the singular form, *waħad* must be present, thus the ungrammaticality of (133b).

- (133) a. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waħad** jdiid
 sixty(m-s) one(m-s) new(m-s)
 ‘Sam read thirty books, and Fadi read sixty new ones’

- b. *sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sittin kitaab jdiid
 sixty(m-s) book(m-s) new(m-s)
 ‘Sam read thirty books, and Fadi read sixty new ones’

By contrast, the data in (134) show that when the adjective appears in the plural form, pronominalization is blocked (133b).¹²

- (134) a. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin kitaab jdadd
 sixty(m-s) book(m-s) new(m-pl)
 ‘Sam read thirty books, and Fadi read sixty new ones’
- b. *sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **wahad** jdadd
 sixty(m-s) one(m-s) new(m-pl)
 ‘Sam read thirty books, and Fadi read sixty new ones’

Furthermore, when the numeral appear on its own without modifying adjectives agreement on verbs must be plural. The examples in (135) show that when ellipsis takes place with TD-numerals, verbs in the ellipsis clause must appear in the plural form. Moreover, whether the verb in the antecedent clause shows singular (135a), or plural agreement (135b) does not affect the ungrammaticality of non-plural marked verbs in the ellipsis clause.

¹²Note that plural marked adjectives can appear with *wahad*. However, in such a case, *wahad* refers to a masculine human noun meaning *person* (see section 3 above), as seen in (i).

- (i) sittin wahad twaal
 sixty(m-pl) one(m-s) tall(m-pl)
 ‘Sixty tall men (Intended reading)’

The empty noun reading is not available in (i).

- (135) a. xamsiin walad **akalu** piitza, u talatiin
 fifty(m-s) boy(m-s) ate(3-m-pl) pizza(f-s), and thirty(m-s)
~~walaḍ~~ **akalu**/*akal burger
 boy(m-s) ate(3-m-pl)/ate(3-m-s) burger(m-s)
 ‘Fifty boys ate a pizza, and thirty ate a burger’
- b. xamsiin walad **akal** piitza, u talatiin
 fifty(m-s) boy(m-s) ate(3-m-s) pizza(f-s), and thirty(m-s)
~~walaḍ~~ **akalu**/*akal burger
 boy(m-s) ate(3-m-pl)/ate(3-m-s) burger(m-s)
 ‘Fifty boys ate a pizza, and thirty ate a burger’

As is the case with numerals 3-10, ellipsis can target a noun plus modifier sequence, as seen (136).

- (136) sam gara xamsiin kitaab jdiid, u ana garait
 sam read(3-m-s) fifty(m-s) book(m-s) new(f-s), and I read(1-m-s)
 sitiin ~~kitaab~~ ~~jdiid~~
 sixty(m-s) book(m-s) new(f-s)
 ‘Sam read fifty new books, and I read sixty’

Summing up, ellipsis is possible following TD-numerals. When the NP is indefinite, both ellipsis and pronominalization are possible, and with definite NPs pronominalization is blocked, and only ellipsis is possible. Moreover, in the presence of modifying adjectives with indefinite NPs, pronominalization is blocked if the adjective is plural, whereas pronominalization is obligatory in the presence of a singular adjective.

The following table summarizes the ellipsis data explored in this section.

Table 3.3: Ellipsis and pronominalization inside numeral-containing DPs

Numeral	Ellipsis	Pronominalization
Numerals 3-10	✓	✗
TD-numerals	✓	✓

3.1.3 Summary of data

As I have reviewed in the previous subsections, ellipsis is possible inside DPs containing adjectives, demonstratives, quantifiers, and numerals. Moreover, it was shown that ellipsis and pronominalization are both attested in JA, and that pronominalization is only attested with indefinite singulars. The following table summarizes the ellipsis data:

Table 3.4: Summary of ellipsis and pronominalization in JA DPs

DP element	Ellipsis	Pronominalization
Adjectives	✓	✓
Demonstratives	✓	✗
Quantifiers		
<i>ktiir</i> (many/much)	✓	✗
<i>fway</i> (few)	✓	✗
Numerals 3-10	✓	✗
TD-numerals	✓	✓

In the next section, I provide an overview of the ellipsis and stranding approach of [Saab and Lipták \(2016\)](#) which I’m going to adopt to account for the ellipsis facts explored above.

3.2 The Ellipsis and Stranding Approach ([Saab and Lipták, 2016](#))

In this section, I discuss [Saab and Lipták’s \(2016\)](#) analysis of nominal ellipsis to be used to account for the JA facts presented above. [Saab and Lipták \(2016\)](#) adopt [Merchant’s \(2001\)](#) [E] feature approach to ellipses licensing and extend it to the nominal domain. In what follows, I first present the [E] feature approach, and then discuss [Saab and Lipták’s \(2016\)](#) analysis.

[Merchant \(2001, 2005\)](#) argues that ellipsis is triggered by an [E]llipsis feature, which distinguishes elliptical from non-elliptical constructions. The [E] feature is found on certain functional heads (e.g. C^0 , and T^0 etc). The complement of the head bearing this feature undergoes deletion at PF. To illustrate,

consider the following examples, which illustrate an elliptical phenomenon known as Sluicing, where a *wh*-phrase appears as remnant of a deleted clause:

(137) I know Sam stole something, but I don't know [_{CP} *what_i* [_{C[E]} [_{IP} Sam stole *what_i* .]]]

(138) *Somebody stole the car, but no one knew that it was Ben who.
(Merchant 2001: 59)

Merchant (2001) argues that sluicing is triggered by an [E] feature on C⁰, which results in deletion of its complement (i.e. TP). The above data show that sluicing is only possible in interrogative CPs, as the ungrammaticality of (138) shows. To account for this restriction, Merchant (2001) assumes that in (137), the lexical entry of the [E] feature is specified as [+wh*, +Q*], such that the feature can only be present on particular null C-heads.

In the nominal domain, a number of researchers have extended the [E] feature approach to account for nominal ellipsis in several languages (Merchant, 2014; Saab and Lipták, 2016; Murphy, 2018). In what follows, I will use the analysis of Saab and Lipták (2016) as a representative of this approach.

Saab and Lipták (2016) adopt a PF deletion approach to ellipsis licensing. Following Merchant (2014), they argue that ellipsis is triggered by an [E] feature, which can be found on different functional heads inside the extended nominal projection. Saab and Lipták discuss ellipsis in both inflectional (e.g. Spanish) and agglutinative (e.g. Hungarian) languages. In Hungarian, for instance, adjectives in non-ellipsis contexts do not inflect for number, as seen in (139).

- (139) a. az új ház-ak
the new house-PL
- b. *az új-ak ház-ak
the new-PL house-PL
- c. *az új-ak ház
the new-PL house
'the new houses'

(Saab and Lipták 2016: 18)

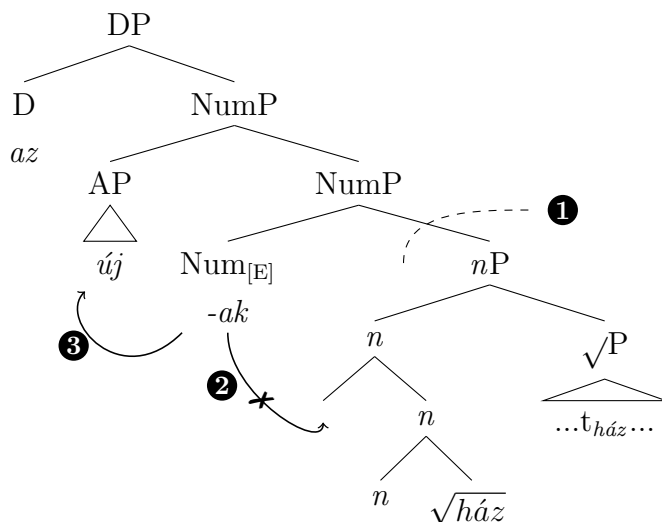
Saab and Lipták (2016) show that when the noun is missing, the number (and case) morphemes, which otherwise appear on the noun, appear on the last adjectival remnant, as seen in (140).¹³

- (140) Mari a régi kis ház-ak-at látta. Én az új nagy-[]ok-at.
Mari the old all house-PL-ACC saw I the new big-PL-ACC
‘Mari saw the old small houses. I saw the new big (ones).’
(Saab and Lipták 2016: 21)

Adopting the Distributed Morphology (DM) approach, Saab and Lipták (2016) assume that in non-ellipsis contexts, number morphology combines with the noun via postsyntactic *Lowering* of Num onto *n*. Saab and Lipták account for the pattern in (140) by assuming that ellipsis targets the complement of Num: *nP* (Merchant, 2014). In their view, ellipsis involves the non-application of vocabulary insertion at PF. That is, when ellipsis applies it bleeds the insertion of the vocabulary items which appear in the ellipsis site. Moreover, they assume that ellipsis bleeds post-syntactic processes like *Lowering*, since the ellipsis site is inaccessible to any morphosyntactic operations. Given this, Saab and Lipták assume that after ellipsis takes place in (140), the number morphemes which otherwise appear on the noun are left stranded. Consequently, the stranded affixes attach to the linearly closest host via *Local Dislocation*, which must take place under strict adjacency (Embick and Noyer, 2001), as seen in (141).

¹³Saab and Lipták (2016) and Saab (to appear) note that this behaviour is not exclusive to Hungarian. Other agglutinative languages such as Turkish (Saab, 2009), Quechua (Weber, 1983), and Persian (Ghaniabadi, 2010) show similar behaviour when ellipsis takes place.

(141) *Ellipsis bleeds Lowering:*



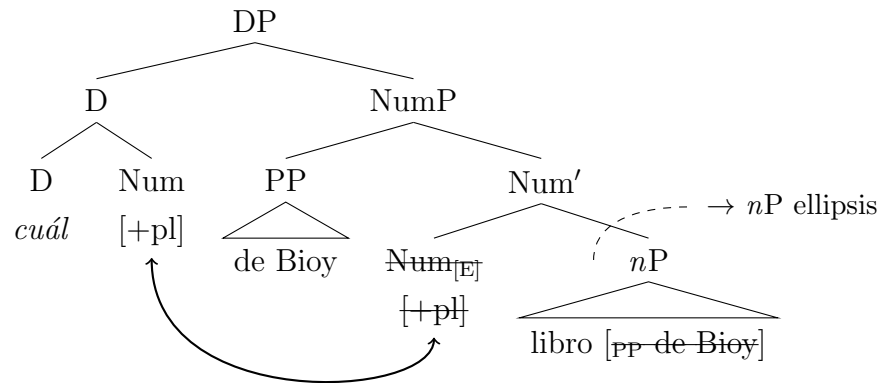
(Modified from [Murphy 2018:15](#))

In inflectional languages like Spanish, [Saab and Lipták \(2016\)](#) also assume that ellipsis targets *nP*. They show that remnants of ellipsis in Spanish must be inflected at least for number. In Spanish, inflected determiners such as *cuál(es)* (which) or *algun(os)* (some) are licit in ellipsis contexts, whereas the uninflected determiners *qué* (what) and *cada* (each) are not ([142](#)).

- (142) a. Qué/cuáles libros de Borges y *qué/cuáles libros
 what/which.PL books of Borges and *what/which.PL books
 de Bioy te gustan?
 of Bioy you like
 ‘Which books of Borges and which of Bioy do you like?’
- b. cada/algún estudiante de física y *cada/alguno
 each/some.SG student of physics and *each/some.SG
 estudiante de lingüística
 student of linguistics
 ‘each/some student of physics and each/some of linguistics’
 ([Saab and Lipták 2016: 27](#))

According to Saab and Lipták (2016), the application of ellipsis bleeds lowering of Num into *n*, and a stranded number affix emerges, as is the case in Hungarian. Unlike Hungarian, however, the stranded affix scenario is resolved in Spanish by deleting the Num head along with the [+pl] feature after number concord takes place between D, which hosts the inflected determiner and Num under immediate locality, as seen in (143).¹⁴

(143)



(Saab and Lipták 2016: 35)

Uninflected determiners like *qué* (what) and *cada* (each) are not licit in (142) because both determiners give rise to a stranded affix situation.

Based on the above facts, Saab and Lipták (2016) formulate the following two descriptive generalizations:

(144) ***Ellipsis-Morphology (Elmo) Generalization***

For every morphological operation MO that affects the domain of X, where X contains the target of MO, MO cannot apply in X if X is subject to ellipsis.

(Saab and Lipták 2016: 33)

(145) ***Morphological Ellipsis***¹⁵

¹⁴Note that Saab and Lipták (2016) assume that the PP remnant *de Bioy* (of Bioy) undergoes movement out of the ellipsis site and adjoins to NumP.

¹⁵Also see Murphy (2018) for an application of morphological ellipsis to nominal ellipsis in German.

at PF, a morphosyntactic word (MWd) X^0 can be elided only if X^0 has an identical antecedent contained in a MWd Y^0 adjacent or immediately local to X^0 . (Saab and Lipták 2016: 34)

The generalization in (144) explains how the stranded affixes in both inflectional and agglutinative languages come about. According to (144), ellipsis bleeds morphological processes that takes place inside the DP (e.g. *Lowering*), resulting in a stranded affix scenario. The generalization in (145) describes the situation in Spanish, where the stranded affix in Num is deleted via identity with a matching number feature on the determiner under immediate locality.¹⁶

Saab and Lipták (2016) propose that ellipsis can either target nP or NumP. One consequence of this proposal is that it explains the fact that nP ellipsis allows for number mismatches between the antecedent clause and the ellipsis clause, since the Num head which hosts number morphology, remains intact by virtue of being outside the ellipsis site (also see Saab, 2010).¹⁷ The following data from Spanish illustrate that number mismatches are possible with nP ellipsis:

- (146) a. Juan prefiere a su perro más que a los
 Juan prefers to his dog.MSC.SG more than to the.MSC.PL
 perros de Pedro.
 dog.MSC.PL of Pedro

¹⁶ Saab and Lipták (2016) exclude the possibility that NumP ellipsis might take place to resolve the stranded affix scenarios created by nP ellipsis. In other words, instead of postulating different rescue mechanisms, one can simply assume that NumP ellipsis can take place eliminating the Num head along with the stranded number affix. Saab and Lipták (2016), however, explain in a footnote that “this kind of fixing of the problem is impossible as the application of phrasal ellipsis is insensitive to the final output. If it was not, we would not find languages such as English, where vP ellipsis, which results in a stranded affix violation, exists alongside TP ellipsis, which does not (Saab and Lipták 2016:17). According to Saab and Lipták (2016), in Spanish, for instance, both nP ellipsis and NumP ellipsis are available, and only the former results in a stranded affix scenario. This, however, does not mean that NumP ellipsis would take place instead of nP ellipsis, since, in their view, ellipsis is ‘blind to the final morphological output.

¹⁷ Saab (to appear) further extends Saab and Lipták’s (2016) approach and argues that the application of ellipsis at different heights in the nominal domain yields three types of ellipsis: (i) RootP ellipsis, (ii) nP ellipsis, and (iii) NumP ellipsis.

- b. Juan compró dos libros de Borges y María compró uno
 Juan bought two books of Borges and Maria bought one
~~libro~~ de Cortázar.
 book of Cortázar
- c. Juan compró un libro de Borges y María compró dos
 Juan bought one book of Borges and Maria bought two
~~libros~~ de Cortázar.
 books of Cortázar

(Saab and Lipták 2016: 30)

On the other hand, it is predicted that number mismatches should not be possible when NumP ellipsis applies since Num is included in the ellipsis site. Saab and Lipták (2016) show that when ellipsis takes place with adjectives or PPs appearing as remnants on their own, number mismatches are not tolerated (147).

- (147) a. Es mucho más fácil cortar la carne con cuchillos buenos
 is much more easy to.cut the meat with knives good
 que con ~~cuchillos~~ malos.
 that with knives bad.PL
 ‘It is much easier to cut the meat with good knives than with bad ones’.
- b.*?Es mucho más fácil cortar la carne con un cuchillo bueno
 is much more easy to.cut the meat with a knife good.SG
 que con ~~cuchillos~~ malos.
 that with knives bad.PL
 ‘It is much easier to cut the meat with a good knife than with bad ones’.

(Saab and Lipták 2016: 32)

Based on the assumption that the ellipsis data in (147) involves NumP ellipsis, but not *nP* ellipsis, the ungrammaticality of (147b) follows automatically according to Saab and Lipták (2016).

As for gender morphology, the application of ellipsis at NumP or *nP* would always entail that gender mismatches are not allowed given the fact that gender

morphology is encoded in a low position inside the extended nominal projection, which could be *n*, as in [Kramer \(2015\)](#), or N itself, as in [Ritter \(1993\)](#). [Saab and Lipták \(2016\)](#) show that, unlike number, gender mismatches under ellipsis are not attested in Spanish (148).¹⁸

- (148) a. *Juan prefiere a su perro más que a la
 Juan prefers to his dog.MSC.SG more than to the.F.SG
~~perra~~ de Pedro
 dog.F.SG of Pedro
- b. *Juan prefiere a su perra más que al
 Juan prefers to his dog.F.SG more than to.the.MSC.SG
~~perro~~ de Pedro.
 dog.F.SG of Pedro
- ([Saab and Lipták 2016](#): 29)

Out of the above discussion, I adopt the idea that ellipsis is triggered by an [E] feature, and that ellipsis takes place at different heights in the DP. As I will show in the next section, the application of ellipsis at the NP level gives rise to a stranded affix scenario in JA, as is the case in Spanish and Hungarian. I will show that different strategies are used to circumvent the stranded affix scenario.

3.3 A Uniform Analysis of Nominal Ellipsis and Pronominalization in JA

In this section, I present a uniform analysis of nominal ellipsis (NE) and pronominalization in JA building on the analysis of [Saab and Lipták \(2016\)](#) discussed in the previous section. I argue that there are two types of ellipsis in the DP depending on which head bears the [E] feature. First, ellipsis may target the complement of Num: the NP. The corresponding head in the

¹⁸ [Merchant \(2014\)](#) shows that gender mismatches are attested with certain classes of nouns in predicative position in Greek. However, he concludes that the apparent gender mismatch cases in Greek are not instances of true ellipsis, but are empty nouns ([Panagiotidis, 2003](#)).

present analysis is Cl. This type of ellipsis targets the NP in the presence of, for example, an adjective (149). I will refer to this type of ellipsis as Noun Phrase Ellipsis (NPE). Second, ellipsis may target a larger structure than NP. Ellipsis with weak quantifiers and some numerals in JA arguably targets the entire CIP (150). I refer to this type of ellipsis as CIPE.

- (149) ʔajabni il-~~film~~ il-jdiid NPE
 liked(1-m-s) the-film(m-s) the-new(m-s)
 ‘I liked the new (film)’

- (150) garait xamsih ~~kuṭṭub~~ CIPE
 read(1-m-s) five(f-s) book(m-pl)
 ‘I read five (books)’

I argue that NPE, but not CIPE, gives rise to a stranded affix scenario, as is the case in Hungarian and Spanish (Saab and Lipták, 2016). More precisely, I show that when NPE takes place a Cl head, which otherwise combines with the noun, is stranded, and that *waḥad* spells out a null classifier, thus deriving pronominalization from ellipsis. In the second half of this section, I analyze ellipsis inside numeral-containing DPs showing that, depending on where the numeral merges, ellipsis may be an instance of NPE or CIPE.

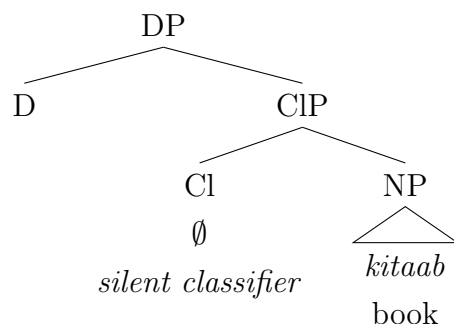
3.3.1 Analysis of ellipsis inside simple DPs

Starting with indefinite NPs, consider the examples in (95b) repeated here as (151), which exemplify how NPE proceeds with indefinite NPs.

- (151) iftara sam galam as^ffar u ana iftariit
 bought(3-m-s) sam pen(m-s) yellow(m-s) and I bought(1-m-s)
waḥad axdar
 one(m-s) green(m-s)
 ‘Sam bought a yellow pen, and I bought a green one’

As explained above, when NPE takes place with indefinite NPs, the proform *waḥad* (one) must be present. To account for this, I argue that *waḥad* appears in (151) due to a stranded affix scenario. Recall from Chapter 2, that JA has a morphological classifier *-ah* which attaches to certain classes of nouns. Moreover, the presence of CIP gives rise to a count structure. I assume following Ouwayda (2014) that in the absence of the overt classifier *ah*, the classifier is instantiated by a zero morpheme. That is, Cl contains a silent classifier with many nouns. So, a count noun like *kitaab* (book) has the structure in (152), where Cl hosts a silent classifier.

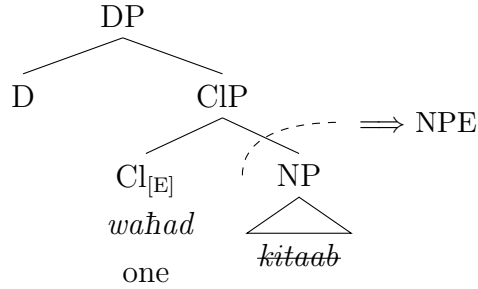
(152)



Several researchers have argued for the existence of null classifiers in non-classifier languages (Cinque, 2006; Zhang, 2011; Dékány, 2012). Dékány (2012), for instance, argues that Hungarian, which is a language with overt classifiers, also has null classifiers. Dékány assumes that the classifier phrase is accessible in all languages. Moreover, the (c)overtness of classifiers is what distinguishes classifier languages from non-classifier languages and languages with optional classifiers like Hungarian. I adopt this idea here. JA is similar to Hungarian since it has both overt and null classifiers. I assume that the null classifier in (152) combines in the syntax with the noun via head movement.

The behaviour of count nouns under NPE further supports the existence of null classifiers in JA. I argue that when NPE takes place, as in (151), the silent classifier is left stranded, since ellipsis bleeds certain operations like head movement (Lasnik, 1999; Merchant, 2001; van Craenenbroeck and Lipták, 2008). In such a case, the pronominal element *waḥad* is inserted to support the stranded affix, as seen in (153).

(153) *NPE with indefinite singulars*



waḥad insertion in this sense can be thought of as a rescue operation, similar to *do*-support in English (Embick and Noyer, 2001). The treatment of *waḥad* as a classifier helps us capture its main properties highlighted in section 3.1.1 above. First, being a classifier, *waḥad* cannot have mass antecedents, since the presence of classifiers entails that the DP is count, as the ungrammaticality of (98) repeated here as (154) shows. The Cl value is set to [-count] with mass nouns (Alexiadou and Gengel, 2012), thus explaining the absence of *waḥad*.

- (154) *iftara sam nabeēḏ aḥmar, u fadi iftara
 bought(3-m-s) sam wine red(m-s), and fadi bought(3-m-s)
 waḥad abyad
 one(m-s) white(m-s)
 ‘Sam bought red wine, and Fadi bought white one’

Second, because classifiers and plural marking are in complementary distribution (T’sou, 1976; Chierchia, 1998; Borer, 2005), it follows that *waḥad* cannot be pluralized. Finally, if gender is taken to be a feature of Cl/Class (Picallo, 2008), then the fact that *waḥad* inflects only for gender follows automatically.

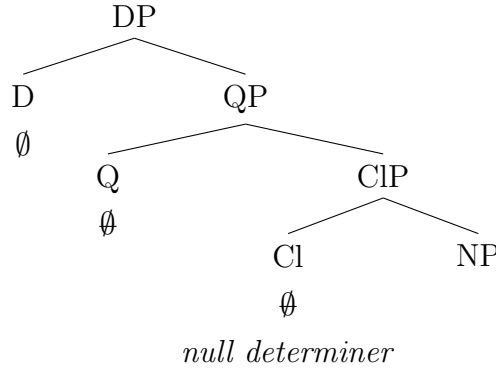
One could entertain the possibility that *waḥad* is the surface realization of a null indefinite determiner. More precisely, let us assume that the grammar of JA has the equivalent of the English indefinite determiner *a* and that the difference between the two languages is that the indefinite determiner is syntactically present but is phonologically null in JA. For concreteness, let

us use Borer's (2005) analysis of English *a*. Borer (2005) argues that *a* is base generated in Cl/Div and that it subsequently moves to #P (QP in the present analysis) (155). Under this analysis, the absence of plural marking with the indefinite determiner (e.g. **a cats*) follows from the complementary distribution between the determiner and the plural feature in Cl/Div.

- (155) [DP [#P a ⟨e⟩_{#(Div)} [CL^{max} α ⟨e⟩_{Div(Δ)} [NP boy]]]]
 (Modified from Borer, 2005:114)

Let us assume that in the presence of an overt noun in JA the indefinite determiner must remain null, leaving aside the issue of why this is the case. By analogy to English *a*, the null indefinite determiner is base generated in Cl and subsequently moves to Q and D, as seen in (156).

- (156)



Now, in the absence of the noun, as in ellipsis, the null determiner spells-out as *waḥad* as a last resort strategy. The treatment of *waḥad* as an indefinite determiner can capture some of its main proprieties explored above. First, by analogy to English *a*, *waḥad* cannot co-occur with plural marking due to the complementary distribution between the determiner and the plural feature in Cl. Second, the fact that *waḥad* cannot co-occur with mass nouns follows from the absence of forms like **a water* in English.¹⁹ More importantly, the

¹⁹In Borer's (2005) system, the incompatibility of the indefinite determiner *a* with mass nouns follows from the absence of Div/Cl altogether with such nouns.

treatment of *waḥad* as an indefinite article accounts for the fact that *waḥad* is incompatible with the definite article *il-* since definite and indefinite determiners are in complementary distribution.

One problem with this line of reasoning is that if *waḥad* is indeed an indefinite article, then we predict that it cannot co-occur with numerals. In particular, we predict that the ungrammaticality of **a fifty books* in English is also attested in JA. However, *waḥad* can co-occur with TD-numerals, as the example in (130a) repeated here as (157) shows.

- (157) sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waḥad**
 sixty(m-s) one(m-s)
 ‘Sam read thirty books, and Fadi read sixty ones’

Moreover, if *waḥad* is an indefinite article then we predict the it should precede the numeral in (157), since the indefinite determiner would end up in D similarly to the definite determiner (see above). However, the following example shows that *waḥad* cannot occur before the numeral.

- (158) *sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 waḥad sitiin
 one(m-s) sixty(m-s)
 ‘Sam read thirty books, and Fadi read sixty ones’

Given this, I maintain that *waḥad* is inserted to support a stranded classifier due to the application of ellipsis at the NP level.

Turning now to indefinite plurals, I argue that no such stranding takes place simply because the classifier is not even present. Recall from chapter 2, that classifiers and plural marking are in complementary distribution (T’sou, 1976; Chierchia, 1998; Borer, 2005). Given this, whenever plural marking is present, classifiers are not, hence the grammaticality of (96a) repeated here as (159).

- (159) iftara sam glaam s^ʕufur, u ana iftariit
 bought(3-m-s) sam pen(m-pl) yellow(m-pl), and I bought(1-m-s)
 ~~glaam~~ xudur
 pen(m-pl) green(m-pl)
 ‘Sam bought yellow pens, and I bought green ones’

The question that now arises is what happens to the number feature in Cl. As mentioned above, [Saab and Lipták \(2016\)](#) argue that ellipsis with adjectives and PPs as the only remnants in Spanish is an instance of NumP ellipsis (CIP ellipsis in the present analysis). Evidence for this view comes from the fact that number mismatches are not tolerated with such elements, as seen in (147b), repeated here as (160).

- (160)*?Es mucho más fácil cortar la carne con un cuchillo bueno
 is much more easy to.cut the meat with a knife good.SG
 que con ~~cuchillos~~ malos.
 that with knives bad.PL
 ‘It is much easier to cut the meat with a good knife than with bad
 ones’.
- ([Saab and Lipták 2016](#): 32)

Turning to JA, number mismatches are highly degraded with plural indefinites, as seen in (161), thus the argument of [Saab and Lipták \(2016\)](#) holds in JA.

- (161)*?iftara sam galam as^ʕfar, u ana iftariit
 bought(3-m-s) sam pen(m-s) yellow(m-s), and I bought(1-m-s)
 ~~glaam~~ xudur
 pen(m-pl) green(m-pl)
 ‘Sam bought a yellow pen, and I bought green ones’

It could be argued that the adjective in (161) is nominalized. Therefore, I will use examples with PP remnants. The examples in (162) shows that number mismatches are not possible with bare PP remnants.

- (162) *iftara sam sayyaara min amriika, u ana iftariit
 bought(3-m-s) sam car(f-s) from America, and I bought(1-m-s)
 sayyaraat min isbania
 car(f-pl) from Spain
 ‘Sam bought a car from America, and I bought ones from Spain’

An alternative would be to assume that the remnant PP in (162) is nominalized. However, as far as I can tell, nowhere in the literature do we find cases where PPs are nominalized. Also, if the PP in (162) is used as a noun, then we would predict that it would not be subject to the same ordering restrictions with respect to modifying adjectives. In JA, and in many other languages, there is a requirement that PPs must follow all modifying adjectives (cf. Adger, 2013), as seen in (163).²⁰

- (163) a. gumsaan s^fufur min amriika
 shirt(m-pl) yellow(m-pl) from America(m-s)
 ‘Yellow shirts from America’
 b.??gumsaan min amriika s^fufur
 shirt(m-pl) from America(m-s) yellow(m-pl)
 ‘Yellow shirts from America’

If the PP in (161) is nominalized, then it is predicted that when an adjective occurs alongside the nominalized PP, ordering restriction should not arise since the PP is used as a noun. In other words, we would predict that the order PP > AP is possible.²¹ However, this prediction is not borne out, as evident from the ungrammaticality of (164b).

- (164) a. iftara sam ~~gumsaan~~ xudur min isbania
 bought(3-m-s) sam shirt(m-pl) green(f-pl) from Spain
 ‘Sam bought green shirts from Spain’

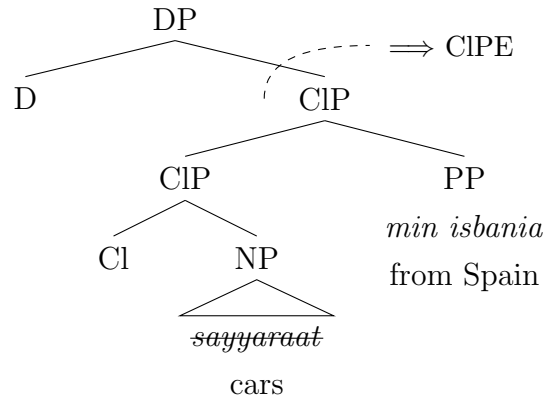
²⁰See Adger (2013) and Belk and Neeleman (2017) for a detailed discussion of the relative ordering of APs and PPs with respect to the noun.

²¹ I use the ‘successor’ symbol > to signal linear order, where X > Y means that X precedes Y.

- b. *iftara sam ~~gumsaan~~ min isbania xudur
 bought(3-m-s) sam shirt(m-pl) from Spain green(f-pl)
 ‘Sam bought green shirts from Spain’

Finally, one could entertain the possibility that the PP itself licenses a *pro*. However, it is not clear what feature the locative PP would have such that it would be able to license *pro* (see section 3.4 for a detailed discussion). Given this, I argue that ellipsis with indefinite plurals involves deletion of the entire ClP (i.e. ClPE), as seen in (165).²²

- (165) a. iftara sam sayyaraat min amriika, u ana
 bought(3-m-s) sam car(f-pl) from America, and I
 iftariit ~~sayyaraat~~ min isbania
 bought(1-m-s) car(f-pl) from Spain
 ‘Sam bought cars from America, and I bought ones from Spain’
- b.



I assume that the PP vacates the ellipsis site and adjoins to some higher position. In chapter 4, I show that the requirement that PPs must appear following all other modifying elements follows from PP extraposition, which takes place even in non-ellipsis contexts.

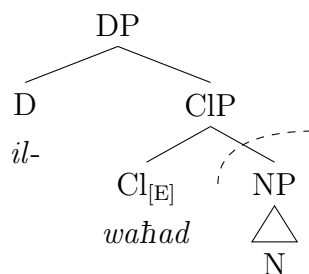
Moving now to definites, recall that ellipsis in JA is productive with definite NPs. Also, the presence of *waḥad* is entirely blocked with the definite article. If

²²Following [Kremers \(2003\)](#), I assume that PPs are adjuncts. For now, I simply assume that PPs adjoin to ClP. In chapter 4, I discuss the interaction between PPs and modifying adjectives in more detail.

ellipsis takes place at the NP level, similarly to singular indefinites, then what explains the absence of classifier stranding, and thus the absence of *waḥad*? The following tree illustrates the problem:

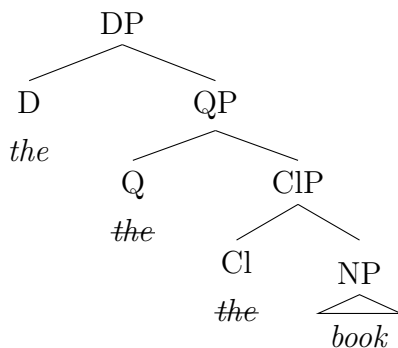
(166) ***No classifier stranding with definites***

- a. *iḥdirit il-waḥad
 watched(1-m-s) the-one(m-s)
 ‘I watched the one (film)’
- b. *

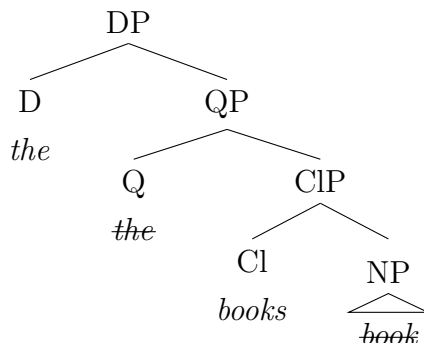


To account for this, I first follow Borer (2005) who assumes that the definite article is a discourse anaphor (Heim, 1982), which inherits all the properties of its antecedent including its reference and mass/count specification. Syntactically, the definite article merges in Cl and raises to Q (# for Borer (2005)), and subsequently to D, leaving copies when the antecedent is singular, whereas the article merges as low as Q when the antecedent is plural since plural marking is already present in Cl (Borer, 2005). The relevant structures are given in (167) and (168).

(167) ***Singular***



(168) *Plural*



Second, I adopt Borer's (2005) idea that the head of every functional projection comes with an open value $\langle e \rangle$ (i.e. unvalued feature in mainstream minimalist terms (Chomsky, 2001)), which must be assigned range (i.e. valued) by an appropriate range assigner (i.e. valuer). For instance, Borer (2005) argues that D is endowed with an open value $\langle e \rangle_d$, and that determiners (e.g. *the*, *a*, *that* etc) can assign range to D's value, as seen in (169).²³

(169) [DP *a/the* $\langle e \rangle_d$ [NP *cat*]]

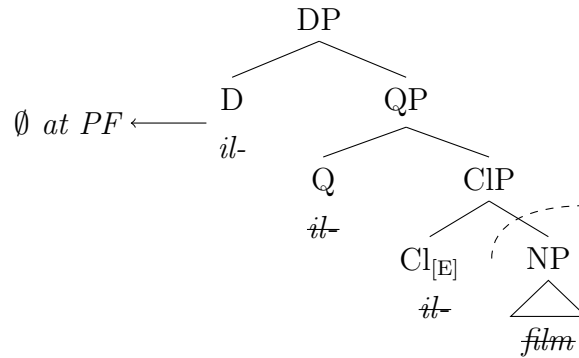
Under Borer's (2005) system every open value must assigned range to yield a legitimate derivation. Taking these assumptions into account, I argue that the open value of Cl in (166) is checked by the definite article such that no stranding of Cl takes place. As for the impossibility of stranding the definite article, I assume that this has to do with the affixal nature of the article. Unlike English *the*, the definite article *il-* is a clitic that requires an appropriate host in order to be realized. I assume that when ellipsis takes place the noun to which the article attaches is missing, and as such, the article is deleted at PF.²⁴ If this line of reasoning is sound, then it is predicted that in the presence of elements that can host the article, the article can appear in ellipsis contexts. In section 3.3.2, I show that this is the case indeed. The definite

²³For simplicity, I ignore the intermediate projections between DP and NP.

²⁴See Ticio (2009) for a similar treatment of the definite article under ellipsis in Spanish.

article obligatorily appears on numerals when ellipsis takes place, as in non-ellipsis contexts. Given the above discussion, I argue that (166a) has the structure in (170).

(170) *NPE with definite singulars*



Moving to definite plurals, in section 3.1.1 it was shown that ellipsis takes place freely with definite plurals and that the presence of *waḥad* is entirely blocked, as seen (171).

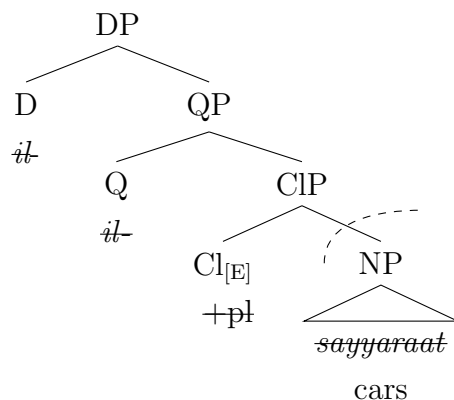
- (171) a. iftara sam il-sayyaraat il-s^fufur, u ana
 bought(3-m-s) sam the-car(f-pl) the-yellow(f-pl), and I
 iftariit ~~il-sayyaraat~~ il-xudur
 bought(1-m-s) the-car(f-pl) the-green(f-pl)
 ‘Sam bought the yellow cars, and I bought the green one’
- b. *iftara sam il-sayyaraat il-s^fufur, u ana
 bought(3-m-s) sam the-car(f-pl) the-yellow(f-pl), and I
 iftariit il-waḥadaat il-xudur
 bought(1-m-s) the-one(f-pl) the-green(f-pl)
 ‘Sam bought the yellow cars, and I bought the green ones’

The question to consider here is whether ellipsis in (171) is an instance of NPE or CIPE. To test this, I investigate the possibility of number mismatches with definite plurals. The following examples show that, unlike plural indefinites (see above), ellipsis with definite plurals tolerates number mismatches:

- (172) iftara sam il-sayyara il-s^ʕafra, u ana
 bought(3-m-s) sam the-car(f-s) the-yellow(f-s), and I
 iftariit ~~il-sayyaraat~~ il-xudur
 bought(1-m-s) ~~the-car(f-pl)~~ the-green(f-pl)
 ‘Sam bought the yellow car, and I bought the green ones (Intended meaning)’

The example in (172) suggests that ellipsis with definite plurals is not an instance of ClPE since number mismatches are possible. Thus, we are only left with the second option which is NPE. Assuming that the article checks the value of Cl by analogy to definite singulars is problematic because the definite article does not merge as low as Cl with definite plurals (see (168) above). Moreover, the presence of plural marking on the adjectives and agreeing PPs (see chapter 4), suggests that agreement in number takes place at some point in the derivation. Given this, I argue that the plural feature in Cl is deleted at PF similarly to deletion of the definite article when there is no appropriate host for it. More precisely, deletion of the noun results in a stranded number feature, and there is no morphological spell-out for the plural feature. In other words, there is no equivalent of English *ones*, thus the feature deletes at PF. With these assumptions in mind, I argue that the example in (171a) has the structure in (173).

- (173) *NPE with definite plurals*



As stated in section 3.2, [Saab and Lipták \(2016\)](#) argue that the stranded affix scenario under ellipsis is observed in both inflectional (e.g. Spanish) and agglutinative (e.g. Hungarian) languages. In Hungarian, the stranded affix attaches to the linearly closest hosts via *Local Dislocation*, and in Spanish the affix deletes after agreement in number with an agreeing element, which bears a corresponding number feature, takes place. The question now arises is how JA is different from Hungarian and Spanish in this regard. I argue that the difference between JA on the one hand and Hungarian and Spanish on the other hand is in the mechanisms used to circumvent the stranded number feature in Cl. In particular, adjectives do not inflect for number in non-elliptical contexts in Hungarian, whereas adjectives in JA always inflect for number. Thus, when the number feature is stranded in JA there is no need to mark the adjective twice, and the feature deletes at PF. One could assume that the number feature deletes after agree between the adjective and the number feature has taken place similarly to Spanish. As mentioned above, [Saab and Lipták \(2016\)](#) show that uninflected determiners like *qué* (what) and *cada* (each) are not licit as remnants of ellipsis in Spanish because both determiners give rise to a stranded affix situation. If deletion of the number feature occurs only after agreement in number takes place, then it is predicted that elements that do not agree in number should not be licit whenever the number feature is stranded. However, PPs, which do not inflect for number, can appear when ellipsis takes place with definite plural nouns, as seen in (174).²⁵

- (174) iftara sam il-sayyaraat illi min amriika, u ana
 bought(3-m-s) sam the-car(f-pl) that from America, and I
 iftariit ~~il-sayyaraat~~ illi min isbania
 bought(1-m-s) the-car(f-pl) that from Spain
 ‘Sam bought the cars from America, and I bought the ones from Spain’

Given this, I argue that the stranded affix scenario is present in JA as is the case in Hungarian and Spanish, and that the difference between the three languages boils down to the rescue mechanism employed to resolve the scenario. Hungarian resorts to *Local Dislocation*, Spanish resorts to deletion under iden-

²⁵ The relativiser *illi* (that) must precede the PP when the noun is definite.

tity with an agreeing number morpheme, and in JA the features deletes when there is no host for it. Note that the value of CL is checked by the plural feature so the structure in (173) meets the requirement that every functional head must be licensed by an appropriate licenser.

Now a question arises is what governs the distribution of NPE and ClPE. In other words, how we predict whether a given DP will undergo NPE or ClPE. One could assume that the properties of the ellipsis remnant (e.g. the presence of rich morphology) or its positioning affect how ellipsis proceeds. However, in section 3.4, I provide several arguments to show that remnants of ellipsis play no role in the licensing process. Instead, I assume following Saab and Lipták (2016) that, by analogy to the clausal domain where we find Sluicing that exists along with VPE (see footnote 16), ClPE exists along NPE in the nominal domain. Otherwise, we predict that ClPE would take place in order to eliminate the stranded affix scenario created by NPE without resorting to different rescue mechanisms, which was shown not to be true as first noted by Saab and Lipták (2016).

The following table summarizes the different ellipsis types explored so far:

Table 3.5: Ellipsis in simple DPs

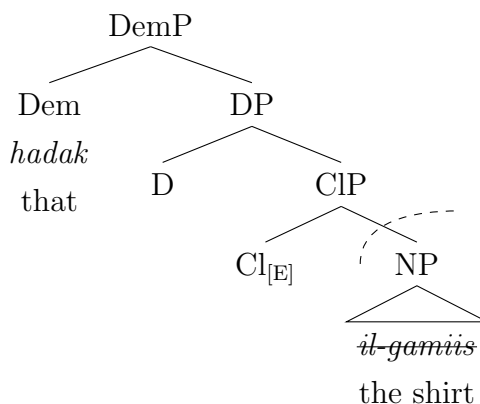
DP type	Ellipsis type	Stranding	Rescue operation
Indefinite singular	NPE	Yes	Last resort insertion (pronominalization)
Indefinite plural	ClPE	No	N/A
Definite singular	NPE	No	N/A
Definite plural	NPE	Yes	Feature deletion

As explained above, ellipsis in the DP could be either NPE or ClPE. Only NPE gives rise to stranded affix scenario and two strategies are used to rescue the derivation: last resort insertion of *wahad* (pronominalization), and feature deletion at PF observed with definite plurals. Moreover, no classifier stranding takes place with definite singulars because the definite article merges a copy in CL. Finally, no stranding of the [+PL] feature takes place with plural indefinites because ellipsis in these DPs is an instance of ClPE. In what follows, I apply the analysis above to the other DP elements explored in section 3.1.1.

Starting with demonstratives, it was shown in section 3.1.1 that ellipsis is possible with both pre and postnominal demonstratives. Moreover, pronominalization is entirely blocked with demonstratives. To account for this, I argue that only ellipsis is possible with demonstratives because of the presence of the definite article. Recall from chapter 1 that demonstratives must be followed by the definite article. Given this, the fact that pronominalization is blocked has to do with the presence of the definite article. The structure of the examples in (121a) repeated here as (175a) is given in (175b).

- (175) a. aʃtini hadak ~~il-gamiis~~ il-abyad
 give-me(1-m-s) that(m-s) the-shirt(m-s) the-white(m-s)
 ‘Give me that white (shirt)’

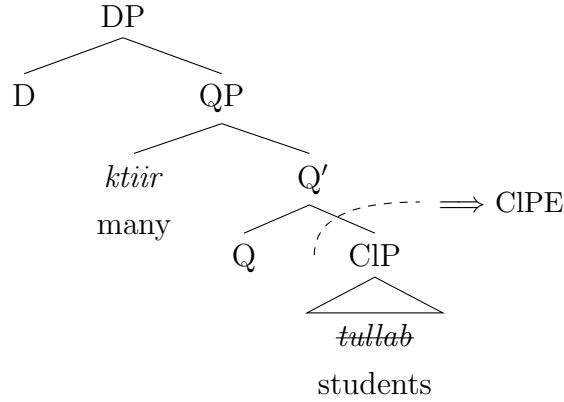
b.



Ellipsis with weak quantifiers *ktiir* (many/much) and *fway* (few) proceeds as is the case with plural indefinites. That is, ellipsis with these elements targets CIP. Given this, the example in (124b) repeated here as (176a) has the structure in (176b).

- (176) a. ija ktiir ~~tullab~~ imbarih
 came(3-m-s) many students(m-pl) yesterday
 ‘Many (students) came yesterday’

b.



Evidence for this view comes from number variation under ellipsis. The example in (177) shows that number variation is not possible with the quantifier *ktiir* (many), similarly to plural indefinites (see above).²⁶

- (177) *sam ʕinduh walad waħad, u fadi ʕinduh ktiir ~~wlaad~~
 sam has son(m-s) one(m-s), and fadi has many son(m-pl)
 ‘Sam has one son, and Fadi has many’

As mentioned above, the lack of number variation under Saab and Lipták’s (2016) theory follows from the size of the ellipsis site. It was shown that NPE tolerates number mismatches, whereas CIPE does not since the Cl head which contains number morphology is elided along the noun. Given this, the lack of number variation under ellipsis with quantifiers provides evidence that ellipsis in (177) is an instance of CIPE.

Before concluding this section, I investigate the interaction between ellipsis and gender morphology. As explained above, Saab and Lipták (2016) show that whether ellipsis takes place at the *nP*/*NP* or *NumP*/*CIP* levels genders mismatches are not tolerated since gender would always be included in the ellipsis site. The examples in (178) and (179) show that gender mismatches are not tolerated under ellipsis in JA.

²⁶Like *ktiir* (many), number variation under ellipsis is not possible with *ʕway* (few).

- (178) a. *il-kalb il-faransi binaam fi-l-bait,
 the-dog(m-s) the-french(m-s) sleeps(3-m-s) in-the-house(m-s),
 u ~~il-kalbih~~ il-almanieh bitnaam fi-l-ħadiiqa
 and the-dog(f-s) the-german(f-s) sleeps(3-f-s) in-the-garden(f-s)
 ‘The French dog (Msc) sleeps in the house, and the German dog
 (Fem) sleeps in the garden’
- b. *il-kalbih il-faransieh bitnaam fi-l-bait, u
 the-dog(f-s) the-french(f-s) sleeps(3-f-s) in-the-house(m-s), and
 ~~il-kalb~~ il-almani binaam fi-l-ħadiiqa
 ~~the-dog(m-s)~~ the-german(m-s) sleeps(3-m-s) in-the-garden(f-s)
 ‘The French dog (Fem) sleeps in the house, and the German dog
 (Msc) sleeps in the garden’
- (179) a. il-kalb il-faransi binaam fi-l-bait,
 the-dog(m-s) the-french(m-s) sleeps(3-m-s) in-the-house(m-s),
 u ~~il-kalb~~ il-almani binaam fi-l-ħadiiqa
 and the-dog(m-s) the-german(m-s) sleeps(3-m-s) in-the-garden(f-s)
 ‘The French dog (Msc) sleeps in the house, and the German dog
 (Msc) sleeps in the garden’
- b. il-kalbih il-faransieh bitnaam fi-l-bait, u
 the-dog(f-s) the-french(f-s) sleeps(3-f-s) in-the-house(m-s), and
 ~~il-kalbih~~ il-almanieh bitnaam fi-l-ħadiiqa
 the-dog(f-s) the-german(f-s) sleeps(3-f-s) in-the-garden(f-s)
 ‘The French dog (Fem) sleeps in the house, and the German dog
 (Fem) sleeps in the garden’

The examples in (178) can be felicitous only on the reading where the adjective in the second clause refers to a human referent (i.e. German male in (178b), and German female (178a)). I assume that such cases do not involve ellipsis, but rather, are instances of empty nouns modified by the adjective (Panagiotidis, 2003).²⁷

²⁷Saab (to appear) provides similar cases from Spanish showing that an adjective mod-

The same is true of *waḥad*. The example in (180) shows that gender variance is possible with *waḥad*, and in such a case, the ellipsis reading is not available, and only the pronoun reading is possible.

- (180) kalb faransi binaam fi-l-ḥadiiqa, u waḥdih
 dog(m-s) french(m-s) sleeps(3-m-s) in-the-garden(f-s), and one(f-s)
 almanieh bitnaam fi-l-bait
 german(f-s) sleeps(3-f-s) in-the-house(m-s)
 ‘A French dog (Msc) sleeps in the garden, and a German (lady) sleeps
 in the house’

In (180), *waḥdih* (one.Fem) in the second conjunct can only refer to a German lady, and not to a female German dog. Given this, I concur with [Saab and Lipták \(2016\)](#) that the unavailability of gender mismatches follows from the way gender is encoded in the extended nominal projection. Whether gender is a property of *N* or *n*, it follows that the gender feature in the antecedent clause must be maintained in the ellipsis clause.

Summing up, I have shown that ellipsis inside the extended nominal projection can target either NP (i.e. NPE) or ClP (i.e. ClPE). Moreover, I have shown that both ellipsis and pronominalization can be accounted for under one single account. In the next section, I analyze ellipsis inside numeral-containing DPs.

3.3.2 Analysis of ellipsis inside numeral-containing DPs

As reviewed in section 3.1.2, ellipsis takes place with numerals 3-10 and with TD-numerals. It was shown that pronominalization is possible with TD-numerals, but not with numerals 3-10. In this section, I analyze ellipsis with numerals showing that ellipsis with both classes of cardinals is arguably an instance of NPE or ClPE.

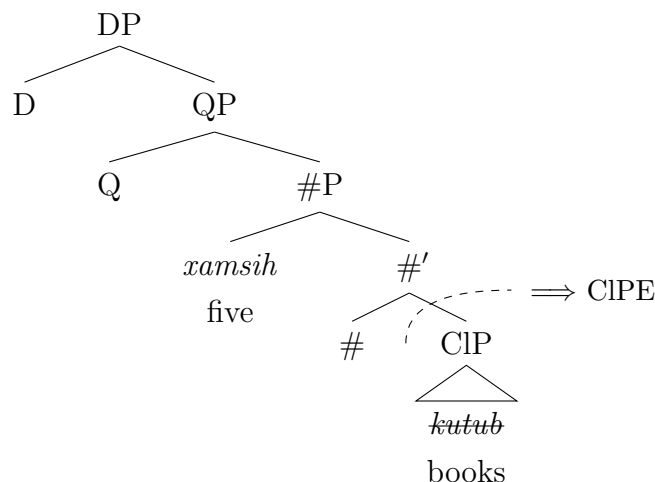
ifying a missing noun can be ambiguous between two readings: an ellipsis reading, where the elided nominal is identical to the one in the antecedent clause, and an empty noun reading, where the missing noun refers a human referent. [Saab](#) (to appear) argues extensively that the former reading is associated with NPE, whereas the latter reading involves base-generated empty nouns ([Panagiotidis, 2003](#)), which are specified for some features such as gender.

To begin with, the example in (181) shows that ellipsis is possible with numerals 3-10 with both definite and indefinite NPs.

- (181) sam gara (il)-arbaʃ kutub, u ana garait
 sam read(3-m-s) (the)-four(m-s) book(m-pl), and I read(1-m-s)
 (il)-xams-**ah** kutub
 (the)-five(f-s) book(m-pl)
 ‘Sam read (the) four books, and I read (the) five’

I argue that the example in (181) involves ellipsis of ClP, as seen in (182).

(182)



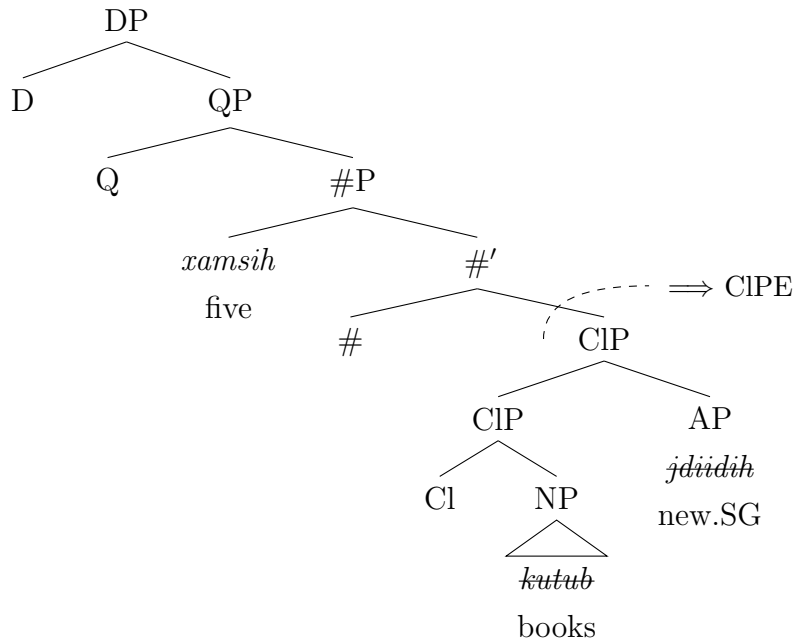
Adjectival agreement under ellipsis further supports this view. Recall from chapter 2 that adjectives occurring with numerals 3-10 might appear in the singular or plural form. Following [Ouwayda \(2014\)](#), I argued that adjectives can merge below # and be singular or they can merge above # and be plural. As shown in section 3.1.2, when ellipsis takes place with numerals 3-10, adjectives appearing along the numeral must appear in the plural form, as the example in (129) repeated here as in (183) shows.

- (183) sam gara arbaŋ kutub, u ana garait
 sam read(3-m-s) four(m-s) book(m-pl), and I read(1-m-s)
 xams-**ih** ~~kutub~~ jdaad/*jdiidih
 five(f-s) ~~book(m-pl)~~ new(m-pl)/new(f-s)
 ‘Sam read four books, and I read five new’

The structure in (182) accounts for the fact that only plural marked adjectives can appear as remnants of ellipsis, since such adjectives are adjoined to #P. It also accounts for the fact that ellipsis might target a noun+modifier sequence with numerals 3-10. That is, since ellipsis targets the entire CIP, then adjectives that merge below #P can be optionally included in the ellipsis site if such adjectives are redundant (i.e. *given*). Thus, the example in (128) repeated here as (184a) has the structure in (184b).

- (184) a. sam gara talaat kutub jdiidih, u ana
 sam read(3-m-s) three(m-s) book(m-pl) new(f-s), and I
 garait xamsih ~~kutub~~ ~~jdiidih~~
 read(1-m-s) five(f-s) book(m-pl) new(f-s)
 ‘Sam read three new books, and I read five’

b.



Ellipsis with numerals 3-10 can also target the NP alone. As stated in chapter 2, JA has a construction known as the plural of the singulative, where the classifier *ah* co-occurs with the plural marker *aat*, as seen in (185).

- (185) xams basal-ah-aat
 five(m-s) onion-CLS(f-pl)
 ‘Five onions’

In JA, and other varieties of Arabic, unit (sortal) classifiers (e.g. *head*, *piece* etc) take the form of a lexical noun which must be preceded by a numeral (Cowell, 2005; Acquaviva, 2008; Mathieu, 2012; Fassi-Fehri, 2016). Unit classifiers bear number marking depending on the preceding numeral. When a unit classifier follows numerals 3-10, the classifier must be plural (186). On the other hand, when a unit classifier appears following a TD-numeral, which only takes singular nouns, the classifier must be singular (187). Note that in both cases the noun following the unit classifier must remain in its mass form.

- (186) xams ruus basal
 five(m-s) head(m-pl) onion
 ‘Five heads (bulbs) of onion’

- (187) talatiin raas basal
 thirty(m-s) head(m-s) onion
 ‘Thirty heads (bulbs) of onion’

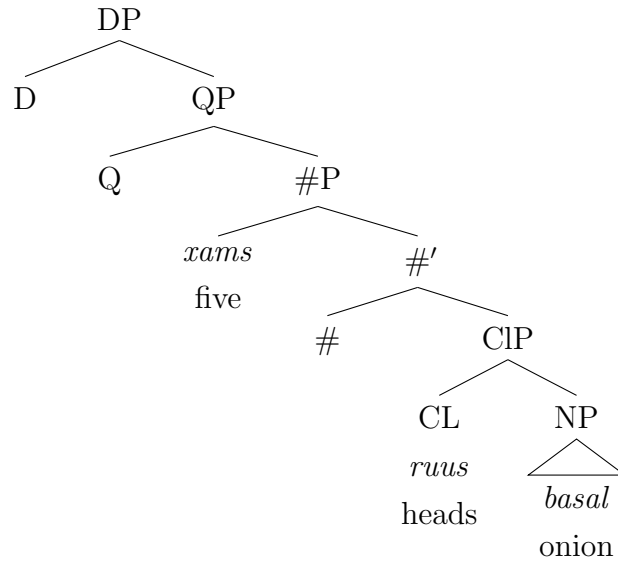
That the noun *raas/ruus* (head/heads) is a lexical classifier is evident from the fact that unit classifiers cannot co-occur with the classifier *ah*, as seen in (188) and (189).

- (188) a. talatiin basal-ah
 thirty(m-s) onion-CL(f-s)
 ‘Thirty onions’
 b. *talatiin raas basal-ah
 thirty(m-s) head(m-s) onion-CL(f-s)
 ‘Thirty heads (bulbs) of onion’

- (189) a. *xams ruus basal-ah
 five(m-s) head(m-pl) onion(m-s)
 ‘Five heads (bulbs) of onion’
- b. *xams ruus basal-ah-aat
 five(m-s) head(m-pl) onion-CLS(f-pl)
 ‘Five heads (bulbs) of onion’

Following Fassi-Fehri (2016), I assume that unit classifiers occupy the CL position, thus explaining the complementary distribution between the singulative suffix *ah* and unit classifiers. Given this, the example in (186) would have the structure in (190).²⁸

(190)



Now back to ellipsis, the examples in (191) show that in the presence of a unit classifier, ellipsis can target the NP alone (191b) or both the classifier and the following NP (191c).²⁹

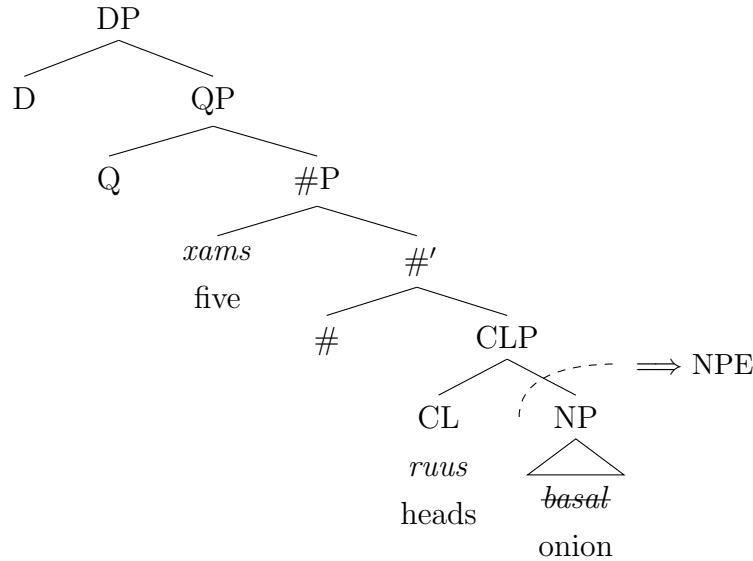
²⁸Fassi-Fehri (2016) argues that in a phrase like (186), the CL head dominates a partitive phrase, and that the difference between English and Arabic is that the equivalent of the English preposition *of* (e.g. *three heads of lettuce*) is phonologically null in Arabic. This point is orthogonal to the current discussion since the lexical classifier occupies the CL position in both cases.

²⁹The feminine suffix *ah* appears on the numeral in (191c) because it is not followed by anything. See below for a discussion of this issue.

- (191) a. xams ruus basal
 three(m-s) head(m-pl) onion
 ‘Three heads of onion’
- b. xams ruus ~~basal~~
 three(m-s) head(m-pl) onion
 ‘Three heads (of onion)’
- c. xamsih ~~ruus~~ basal
 three(m-s) head(m-pl) onion
 ‘Three (heads of onion)’

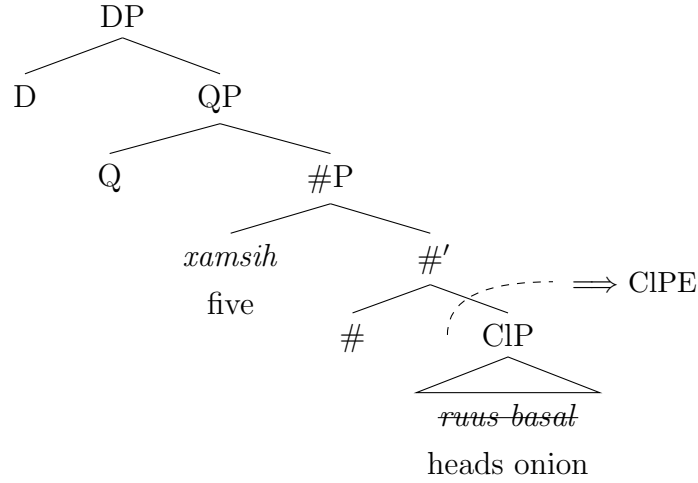
Since the unit classifier *ruus* (heads) occupies the CL position, then the data in (191) supports the idea that the application of ellipsis might target NP alone or the entire CLP. I argue that the example in (191b), which involves deletion of the NP alone, is an instance of NPE, as seen in (192).

(192)



On the other hand, I argue that the example in (191c), which involves deletion of the classifier along the NP, is an instance of CIPE. The relevant structure is given in (193).

(193)



One issue to address here is the final suffix on numerals 3-10. As mentioned in section 3.1.2, numerals 3-10 must appear with the final *-ah* suffix when ellipsis takes place, as the ungrammaticality of (126) repeated here (194) shows.

- (194) *sam gara (il)-arbaʃ kutub, u ana garait
 sam read(3-m-s) (the)-four(m-s) book(m-pl), and I read(1-m-s)
 (il)-xams kutub
 (the)-five(m-s) book(m-pl)
 ‘Sam read (the) four books, and I read (the) five’

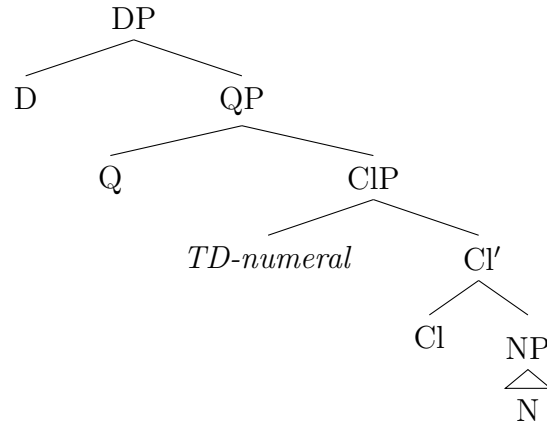
Numerals 3-10 must appear with the final *ah* suffix when not followed by anything such as in counting (e.g. 1, 2, 3 etc).³⁰ Given this, I assume that when the numeral is followed by the noun in non-ellipsis contexts, the final *ah* suffix is deleted at PF similarly to the final *-t* deletion observed with Construct State constructions (see chapter 4). Such deletion does not take place when the following noun is missing as in (194) above. The obligatoriness of the *-ah* suffix in (194) further supports the idea that the suffix is present on the numeral in the syntax and that its deletion takes place at PF when the following noun is elided. Formally speaking, we can assume that a haplology rule (Neeleman and

³⁰See Alqarni (2015) for a detailed morphological investigation of numerals in MSA.

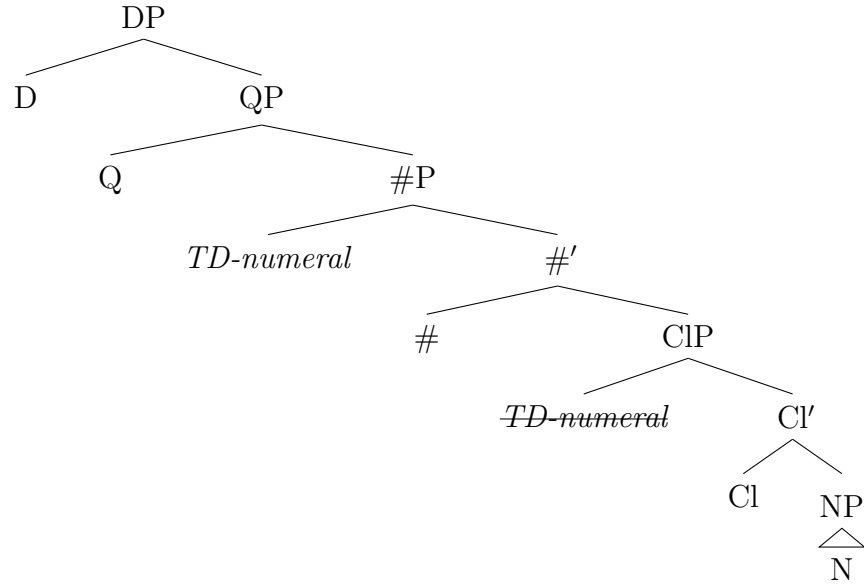
Van de Koot, 2006) targets the *-ah* suffix under adjacency with the following noun.

Moving on to TD-numerals, in chapter 2 I argued that a TD-numeral can merge in two positions giving rise to different semantic and agreement effects. A TD-numeral first merges in Spec-CIP, and it has two options: (i) the numeral stays in its base position, and no plural marking on adjectives and verbs takes place at all (195), and (ii), the numeral can undergo movement to Spec-#P, and adjectives could merge below or above # appearing in the singular or plural forms respectively (196).

(195)



(196)

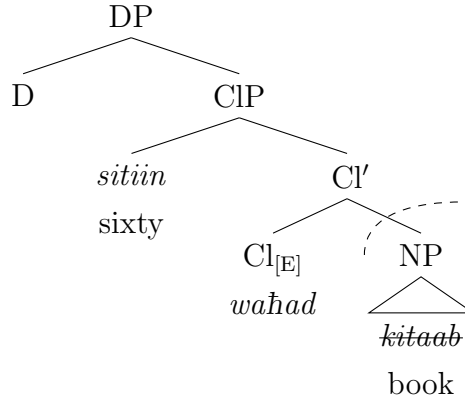


The examples in (133), repeated here as (197) show that in absence of plural marking on adjectives, *waḥad* must be present.

- (197) a. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waḥad** jdiid
 sixty(m-s) one(m-s) new(m-s)
 ‘Sam read thirty books, and Fadi read sixty new ones’
- b. *sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sittin ~~kitaab~~ jdiid
 sixty(m-s) ~~book(m-s)~~ new(m-s)
 ‘Sam read thirty books, and Fadi read sixty new ones’

I argue that when ellipsis takes place in (197a), the null classifier is stranded as is the case with indefinite singulars. As such, *waḥad* is inserted to support the stranded classifier, as seen in (198).

(198)



Note that the presence of *waḥad* has nothing to do with the availability of adjectival modification. The example in (130a) repeated here as (199) shows that *waḥad* can appear following a TD-numeral when ellipsis takes place. I argue that the example in (199) has the same structure in (198).

- (199) sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waḥad**
 sixty(m-s) one(m-s)
 ‘Sam read thirty books, and Fadi read sixty ones’

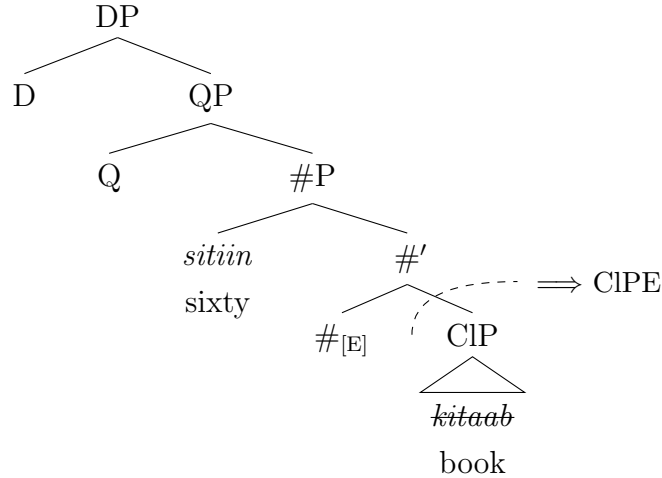
Now consider cases where a TD-numeral merges in Spec-#P. The examples in (134) repeated here as (200) show that in the presence of plural marking on adjectives, the presence of *waḥad* is entirely blocked.

- (200) a. sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin ~~kitaab~~ jdadd
 sixty(m-s) ~~book(m-s)~~ new(m-pl)
 ‘Sam read thirty books, and Fadi read sixty new ones’

- b. *sam gara talatiin kitaab, u fadi gara
 sam read(3-m-s) thirty(m-s) book(m-s), and fadi read(3-m-s)
 sitiin **waḥad** jdadd
 sixty(m-s) one(m-s) new(m-pl)
 ‘Sam read thirty books, and Fadi read sixty new ones’

In (200), the presence of *waḥad* is blocked because the [E] feature is found on #, similarly to numerals 3-10. The fact that the adjective must appear in the plural form further supports this idea. So, the example in (200a) has the structure in (201).

(201)



The structure in (201) accounts for the fact that in the absence of modifying adjectives, a TD-numeral might appear by itself without *waḥad*. Moreover, the fact that verbs must always be plural marked when the numeral appears without *waḥad* follows from the presence of #, as seen in (135) repeated here as (202).

- (202) a. xamsiin walad **akalu** piitza, u talatiin
 fifty(m-s) boy(m-s) ate(3-m-pl) pizza(f-s), and thirty(m-s)
 ~~walad~~ **akalu**/*akal burger
 boy(m-s) ate(3-m-pl)/ate(3-m-s) burger(m-s)
 ‘Fifty boys ate a pizza, and thirty ate a burger’

- b. xamsiin walad **akal** piitza, u talatiin
 fifty(m-s) boy(m-s) ate(3-m-s) pizza(f-s), and thirty(m-s)
~~walad~~ **akalu**/*akal burger
 boy(m-s) ate(3-m-pl)/ate(3-m-s) burger(m-s)
 ‘Fifty boys ate a pizza, and thirty ate a burger’

Back to unit classifiers, it is worthwhile to see if the same patterns observed with numerals 3-10 are also attested with TD-numerals. The data in (203) show that, like numerals 3-10, ellipsis with TD-numerals can target NP alone (203b) or a classifier+NP sequence (203c).

- (203) a. talatiin raas basal
 thirty(m-s) head(m-s) onion
 ‘Thirty heads of onion’
 b. talatiin raas ~~basal~~
 thirty(m-s) head(m-s) onion
 ‘Thirty heads (of onion)’
 c. talatiin ras ~~basal~~
 thirty(m-s) head(m-s) onion
 ‘Thirty (heads of onion)’

As argued above, when a TD-numeral merges in Spec-ClP, the application of ellipsis at the NP level gives rise to stranded affix scenario, thus *waḥad* is inserted in Cl. If *waḥad* occupies the CL position, then we predict that it cannot co-occur with unit classifiers since such classifiers also occupy Cl. The example in (204) shows that in the presence of a unit classifier, the presence of *waḥad* is blocked.

- (204) *talatiin raas waḥad ~~basal~~
 thirty(m-s) head(m-s) one(m-s) onion
 ‘Thirty bulbs of onion (Intended meaning)’

The ungrammaticality of (204) follows from the fact that both the unit classifier *ras* (head) and *waḥad* compete for the same position, namely Cl.

Now one might wonder whether *waḥad* can substitute for a classifier + noun sequence. In particular, given an example like (204), it is worthwhile to see if *waḥad* can replace both the classifier *raas* (head) and the following noun *basal* (onion). The example in (205) shows such replacement is not possible.

- (205) *sam gattaʃ talatiin raas basal, u fadi gattaʃ
 sam cut(3-m-s) thirty(m-s) head(m-s) onion, and fadi cut(3-m-s)
 xamsiin waḥad
 fifty(m-s) one(m-s)
 ‘Sam cut thirty heads of onion, and Fadi cut fifty ones’

The ungrammaticality of (205) further supports the view of *waḥad* as a last resort strategy. The fact that *waḥad* cannot replace both Cl and NP shows that *waḥad* is indeed a stranded classifier, which only appears a last resort strategy due to the stranded affix scenario created by NPE. In other words, since the Cl position is already occupied by the unit classifier *raas* (head), then no stranding takes place at all when NPE takes place. Given this, the ungrammaticality of (205) is accounted for.

Summing up, in this section I have shown that ellipsis with numerals could be an instance of NPE or ClPE. Also, I provided further evidence for the idea that the pronominal element *waḥad* is inserted to support a stranded classifier in Cl due to the application of NPE. More precisely, I have shown that *waḥad* is in complementary distribution with other unit classifiers which occupy the Cl position.

In the rest of this chapter, I defend the analysis proposed above. In doing so, I compare the analysis with previous treatment of nominal ellipsis showing that they cannot capture the full set of facts in JA.

3.4 Nominal Ellipsis in Generative Syntax

The purpose of this section is to review some of the previous accounts of nominal ellipsis (NE). The question of what licenses NE has been the topic of much debate in the past several decades. It has been argued that NE is licensed by strong inflection (Lobeck, 1995; Kester, 1996a,b), partitivity (Sleeman, 1996),

focus (Giannakidou and Stavrou, 1999; Corver and Van Koppen, 2009; Eguren, 2010), classifiers (Alexiadou and Gengel, 2012), definiteness (Cornilescu and Nicolae, 2012), and subset relations (López, 2000; Eguren, 2010). There are also other accounts which attempt to unify both ellipsis and pronominalization through movement and deletion (Ntelitheos, 2004; Corver and Van Koppen, 2011). The following table summarizes these accounts:

Table 3.6: Previous accounts of NE

Inflection	Lobeck, 1995; Kester, 1996a, 1996b
Partitivity	Sleeman, 1996
Focus	Giannakidou and Stavrou, 1999; Eguren, 2010; Corver and Van Koppen, 2009
Classifiers	Alexiadou and Gengel, 2012
Definiteness	Cornilescu and Nicolae, 2012
Subset relations	López, 2000; Eguren, 2010
Movement and deletion	Ntelitheos, 2004; Corver and Van Koppen, 2011

In the following subsections, I will discuss a representative of each these accounts and show that they run into problems when faced with the ellipsis facts in JA presented above.

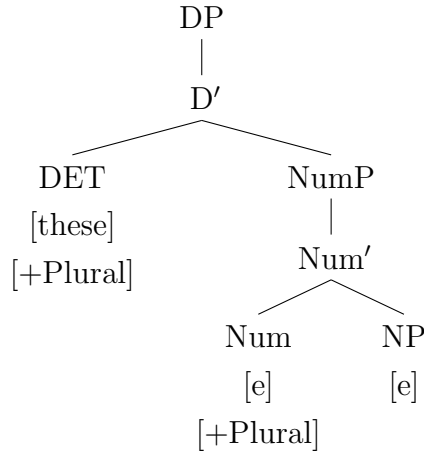
3.4.1 Inflection

Lobeck (1995) argues that NE is licensed by strong inflection of D^0 or Num^0 . According to Lobeck, the agreement features relevant for ellipsis licensing in English are: [+Plural], [+Possessive], and [+Partitive]. Lobeck proposes the structure in (206b),³¹ for the elliptical sentence in (206a).³²

- (206) a. Mary likes those books but I like [DP these [e]].
b.

³¹Following Ritter (1991), Lobeck (1995) assumes two functional categories dominated by DP: D^0 and Num^0 .

³²Also see Kester (1996a,b) for a similar analysis of NE in Dutch.



(Lobeck 1995:85)

According to Lobeck (1995), only D^0 is specified for strong agreement, as it realizes the agreement feature [+Plural]. Therefore, D^0 can license and identify an empty NP³³ (i.e. *pro*). Also, in order for an empty NP to be licensed, it must be “properly” head governed by a D^0 or Num^0 specified for strong agreement. Lobeck (1995) then proposes the parameter in (207) to capture the differences between English (a language with poor morphology) and languages with rich agreement system inside DP, such as German.

- (207) The Ellipsis Identification Parameter (EIP): The number of strong agreement features in D^0 or NUM^0 that is required to identify an empty, pronominal NP is proportional to the number of possible strong agreement features in the agreement system of noun phrases in the language.

(Lobeck 1995:102)

The parameter in (207) accounts for the fact that in German, NE is licensed by a head specified for three features: case, gender, and number, whereas in En-

³³Under Lobeck’s (1995) analysis, a determiner must properly head govern the empty NP. In (206b), however, the empty Num^0 head blocks the government of the empty NP by D^0 . In such cases, Lobeck assumes that D^0 licenses and identifies an empty NumP and not NP. Lobeck makes use of Baker’s (1988) incorporation operation (i.e. The Government Transparency Corollary (GTC)). The GTC simply states that a “lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position” (Baker 1988:64). Lobeck (1995) then modifies the GTC making it applicable to empty heads as well.

glish, any of the three features (i.e. [+Plural], [+Possessive], and [+Partitive]) is sufficient to license NE.

Aside from conceptual worries about the notion of government, a number of researchers have questioned the idea that inflection is a prerequisite for NE licensing (Eguren, 2010; Saab and Lipták, 2016). Saab and Lipták (2016), for instance, show that inflection that appears on NE remnants is not by itself required for ellipsis to proceed, but rather, inflection appears as a byproduct of ellipsis licensing (see the discussion above). Moreover, it was shown above that modifying PPs are licit in ellipsis contexts in JA, despite the fact the such PPs do not bear any overt inflection (208).

- (208) iftara sam gumsaan min amriika, u ana iftariit
 bought(3-m-s) sam shirt(m-pl) from America, and I bought(1-m-s)
 ~~gumsaan~~ min isbania
 ~~shirt(m-pl)~~ from Spain
 ‘Sam bought shirts from America, and I bought from Spain’

Furthermore, it was shown above that TD-numerals can license NE despite the fact that no [+PL] feature is present at any point in Num (or Cl in the present analysis). Therefore, I assume that inflection is not a necessary precondition for NE licensing.³⁴

3.4.2 Partitivity

Sleeman (1996) rejects the licensing and identification approach of Lobeck (1995). She provides cases from French where adjectives show overt inflection, yet NE is not licit (209).

³⁴Ntelitheos (2004) shows that in Malagasy, no overt inflection appears on prenominal modifiers, yet ellipsis is possible inside the DP, as seen in (i).

- (i) Hitan'i Koto ny alika mainty ary Rasoa ny alika volontany.
 saw Koto Det dog black and Rasoa Det dog brown
 ‘Koto saw the black dog and Rasoe saw the brown one.’

(Ntelitheos 2004:33)

(209) (In the morning an interesting lecture and some less interesting ones were given):

*Malheureusement je n'ai pas entendu l'intéressante.

unfortunately I NEG have NEG heard the

'Unfortunately, I have not heard the interesting one'

(Sleeman 1996:14)

Based on the ungrammaticality of (209), Sleeman (1996) argues that the relevant feature for NE licensing is [+Partitive]. The element bearing the relevant [+Partitive] feature must properly govern *pro*, according to condition in (210).

(210) *Proper government of elliptical nouns in French:*

[e] must be canonically governed by a functional head (or its specifier)

marked as [+partitive]. (Sleeman 1996:39)

Partitivity is defined by Sleeman (1996:34) as properly or improperly included within a set. Sleeman (1996) classifies partitives into two types: *D-partitives*, and *N-partitives*. D-partitives are elements like numerals, and quantifiers. With such elements "a subset is formed out of the superset denoting the kind (Sleeman 1996:34). N-partitives, on the other hand, refer to elements that denote a property themselves and, as such, can be used as predicates. This characterization accounts for the fact that NE is licensed by elements like numerals and quantifiers without resorting to *one* insertion in English. It would also explain the absence of NE with certain classes of adjectives, like adjective denoting quality (e.g. *boring*), since such adjectives are not inherently partitive.³⁵

The notion of partitivity is too vague to capture the many cases of NE licensing observed in JA and other languages.³⁶ Under Sleeman's (1996) analysis, the semantics of the remnant adjective determines the possibility of NE. That is, adjectives that are not partitive are not licit in NE contexts. While some non-classifying adjectives in JA are not licit in NE contexts in JA, the presence of *waḥad* or the definite article is sufficient to make them licit in NE

³⁵Sleeman (1996) notes that "the class of adjectives that can license pronominal NPs in French is still vague (Sleeman 1996: 146).

³⁶See Günther (2013) for an extensive critique of Sleeman's (1996) approach.

contexts. Furthermore, it was shown above that modifying PPs are licit as NE remnants (see (208) above). It is not clear whether such PPs bear a partitive feature. Finally, Sleeman (1996) argues that ordinals are D-partitives, which means that they can license NE and the presence of anaphoric *one* is optional (211).

(211) This is the third (one)

(Sleeman 1996:130)

Ordinals in JA cannot appear on their own without *waḥad*, when the NP is indefinite (212) (See Appendix 1.A).

(212) sam gara ?awal kitaab, u ana garait
 sam read(3-m-s) first(m-s) book(m-s), and I read(1-m-s)
 tani *(waḥad)
 second(m-s) one(m-s)
 ‘Sam read a first book, and I read a second one’

So in (212), even though ordinals are D-partitives, they cannot license ellipsis without the presence of *waḥad*, which is not expected under Sleeman’s (1996) account.

3.4.3 Focus

Corver and Van Koppen (2009) argue that NE is licensed by focus.³⁷ They note that NE in Dutch is licensed via strong adjectival inflection, and in some cases via single determiners; the determiners *deze* (this one/these) and *die* (that one/those) which supports Lobeck’s (1995) analysis outlined above. However, Corver and Van Koppen (2009) show that *wat voor*-ellipsis is licensed by focus not agreement, as in (213) and (214).

(213) **Wat voor schoenen** heb jij gekocht? (Standard Dutch)
 what for shoes have you bought
 ‘What kind of shoes did you buy?’

³⁷See Alexiadou and Gengel (2012) for arguments against the analysis of NE in terms of focus.

(Modified from Corver and Van Koppen 2009:5)

(214) Over schoenen gesproken... (Talking about shoes)

Wat voor ___ heb jij (er) gekocht?

what for have you (R-pron) bought

‘What kind (of shoes) did you buy?’

(Northern Colloquial Dutch)

(Modified from Corver and Van Koppen (2009:5)

Corver and Van Koppen (2009) argue for the existence of a focus projection (FocP) inside the DP which attracts the remnant of NE to its specifier position (Spec-FocP). Consequently, the complement of FocP is deleted at PF. Under their analysis, a DP would have the configuration in (215).

(215) [DP [FocP [NumP [NP]]]]

(Modified from Corver and Van Koppen 2009:3)

Corver and Van Koppen (2009) adopt the [E] feature approach of Merchant (2001). They argue that FocP hosts an [E] feature endowed with a [+OP] feature. Corver and Van Koppen (2009:17) assume that the remnant in NPE which carries contrastive focus, can then be regarded as an operator (cf. Kiss 1998). As in the case of sluicing, the operator in NE undergoes movement to [Spec-FocP] in order to check the [+OP] feature in Foc⁰, as in the following configuration:

(216) a. Over konijnen gesproken... (Talking about rabbits)

Ik heb gisteren een zwart-**e**___ zien lopen (Colloquial Dutch)

I have yesterday a black-**e** see walk

I have seen a black one yesterday

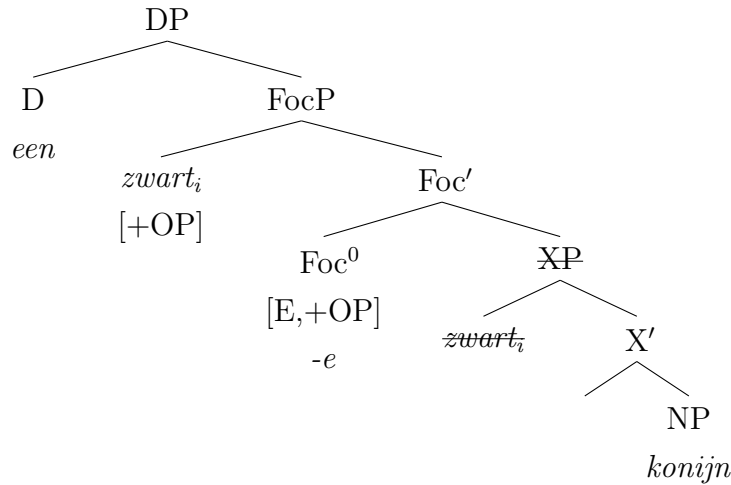
b. Over jongens gesproken, dat is ook (Talking about boys, that is...)

in saai-**en** ___ (Frisian)

a boring-**en**

a boring one

c.



(Modified from Corver and Van Koppen 2009:18)

The analysis of NE via focus faces a number of problems in JA. First, under the focus analysis of NE, it is difficult to account for the presence vs absence of *waħad*, and more specifically, for its absence with definite NPs. Second, a combination of elements (e.g. adjectives, numerals, and demonstratives) might appear as remnants of NE in JA. In such cases, shall we assume that FocP has multiple specifier positions to accommodate the moved remnants? Even so, we predict that if there are ordering restrictions between modifying elements, such restrictions should not arise under ellipsis when these elements appear as remnants of ellipsis. As mentioned above, when a noun is modified by an adjective and a PP, the unmarked order is NP>AP>PP. When ellipsis takes place, switching the order gives rise to ungrammaticality, as seen in (164) repeated here as (217).

- (217) a. iftara sam ~~gumsaan~~ xudur min isbania
 bought(3-m-s) sam shirt(m-pl) green(f-pl) from Spain
 ‘Sam bought green shirts from Spain’
- b. *iftara sam ~~gumsaan~~ min isbania xudur
 bought(3-m-s) sam shirt(m-pl) from Spain green(f-pl)
 ‘Sam bought green shirts from Spain’

If the AP and PP in (217) undergo focus movement to Spec-FocP, then the fact that ordering redirections persist remains unaccounted for. Finally, Cinque (2012) shows that in Italian, remnants of NE need to contrast with the antecedent, as seen in (218).

- (218) Molti student sono intervenuti ma molti ~~studenti~~ hanno deciso di non partecipare.
 ‘Many students have come but many have decided not to participate’.
 (Cinque 2012: 179)

Examples similar to in (218) are also grammatical in JA (219).

- (219) ktiir tullab iju ʕal-saf, bas ktiir
 many students(m-pl) came(3-m-s) to-the-class(m-s), but many
~~tullab~~ ma ʕaraku
~~students(m-pl)~~ not participated(3-m-s)
 ‘Many students came to class, but many did not participate’

3.4.4 Classifiers

Alexiadou and Gengel (2012) discuss NE in Spanish, Italian, Dutch, German, and English. For Alexiadou and Gengel, NE is licensed by classifiers, which can take different forms in different languages as follows:

1. NP Ellipsis with the indefinite article in the Romance languages (see Bernstein 1993);
2. English NP Ellipsis with *one*-insertion (see Barbiers 2005); and
3. Dutch and German NP Ellipsis (see Lobeck 1995).

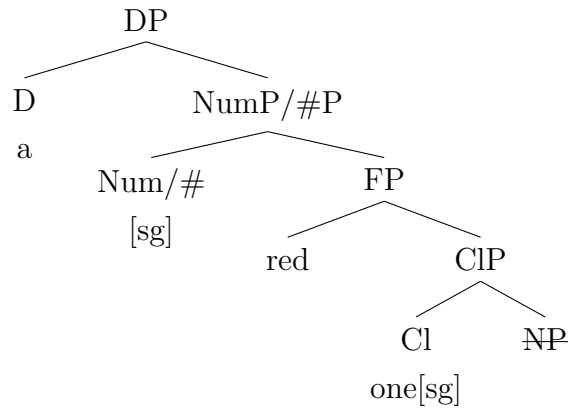
(Modified from Alexiadou and Gengel 2012:178)

In what follows, I will use English NE as a representative of Alexiadou and Gengel’s (2012) analysis. Alexiadou and Gengel (2012) note that elements that license NE in English are inherently plural (Lobeck, 1995). In the absence of plural morphology (e.g. adjectives), *one* insertion takes place (220).

- (220) a. (Talking about new books,) I have two (*ones).
 b. (Talking about books,) I have two new *(ones).
 (Modified from Alexiadou and Gengel 2012:180)

Following Borer (2005), Alexiadou and Gengel (2012) adopt the idea that *one* in English is a classifier, which is inserted directly in Class, as seen in (221).³⁸

(221)

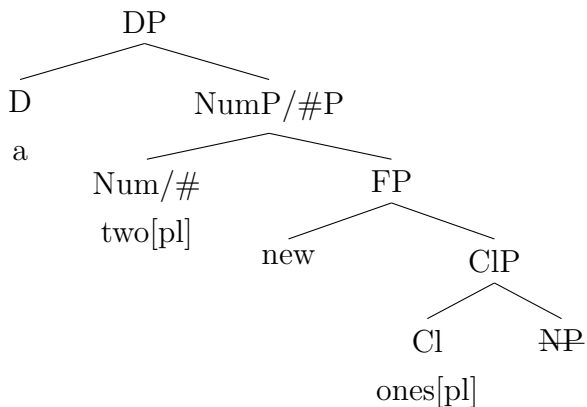


(Alexiadou and Gengel 2012:192)

As for the plural structure, Alexiadou and Gengel (2012) argue that *one* agrees with the plural feature in the head Num/#. Since the noun is missing, *one* hosts the number morphology which otherwise appear on the noun (222).

³⁸Alexiadou and Gengel (2012) do not provide an explanation for the obligatory presence of modifying adjectives between the numeral and *one*. They suggest that this might be a locality restriction.

(222)



(Alexiadou and Gengel 2012:192)

Alexiadou and Gengel (2012) then note that there is a strong link between partitivity and ellipsis (cf. Sleeman, 1996). This assumption is further supported by the fact that non-classificatory adjectives (e.g. *boring*) are not licit in NE contexts. Nonetheless, Alexiadou and Gengel (2012) cite examples from Eguren (2010), where non-classificatory adjectives become licit in NE contexts once such adjectives are used in a contrastive setting (223).

- (223) a. Prefiero el __ verde.
 prefer the green one
- b. #No me gusta el __ aburrido.
 I don't like the boring one.
- c. Tenéis que resolver el problema interesante y el __ aburrido.
 You have to solve the interesting problem and the boring one.
- (Eguren 2010:449)

Alexiadou and Gengel (2012:197) assume that “once reference to a set is established, even adjectives that typically do not occur in NP Ellipsis are grammatical in NP Ellipsis contexts”. Alexiadou and Gengel (2012) then make the following two hypotheses:

- (224) (i) the two constructions are related, i.e. partitivity is indeed a necessary requirement for NPE, as suggested by [Sleeman \(1996\)](#) ; and,
- (ii) if classifiers license partitive constructions, and if partitivity licenses NP Ellipsis, the classifier may also license NP Ellipsis.
- ([Alexiadou and Gengel 2012:198-199](#))

Such an assumption is further supported by the fact that elements that license NE can also appear in partitive constructions. [Alexiadou and Gengel \(2012\)](#) note that the anaphoric *uno* in Spanish, which is treated as a classifier, can appear in both NE and partitive constructions (cf. [Martí, 2003](#)), as seen in (225).

- (225) a. a un problema grave
A serious problem
- b. uno [e] grave (*NP Ellipsis*)
A serious one
- c. uno de tus problemas (*partitive construction*)
One of your problems
- ([Alexiadou and Gengel 2012:198](#))

As for English *one*, [Alexiadou and Gengel \(2012\)](#) follow [Barbiers \(2005\)](#) by assuming that *one* in English encodes partitivity by virtue of being specified for [atom/partitivity]. [Alexiadou and Gengel \(2012\)](#) follow [Borer \(2005\)](#) by assuming that, being a classifier, *one* has an individuating function, which is similar to atomicity and partitivity.

Finally, [Alexiadou and Gengel \(2012\)](#) suggest that notions like focus, and partitivity have the function of establishing a set-subset relation between the ellipsis DP and the antecedent DP. In other words, features like [+focus] and [+partitive] have the role of referring to a set previously established in the discourse. According to [Alexiadou and Gengel \(2012\)](#), the partitivity requirement on NE is encoded by the classifier.

Whereas I do concur with [Alexiadou and Gengel \(2012\)](#) that ellipsis targets the complement of ClassP/ClP, I do not assume that the presence of a classifier

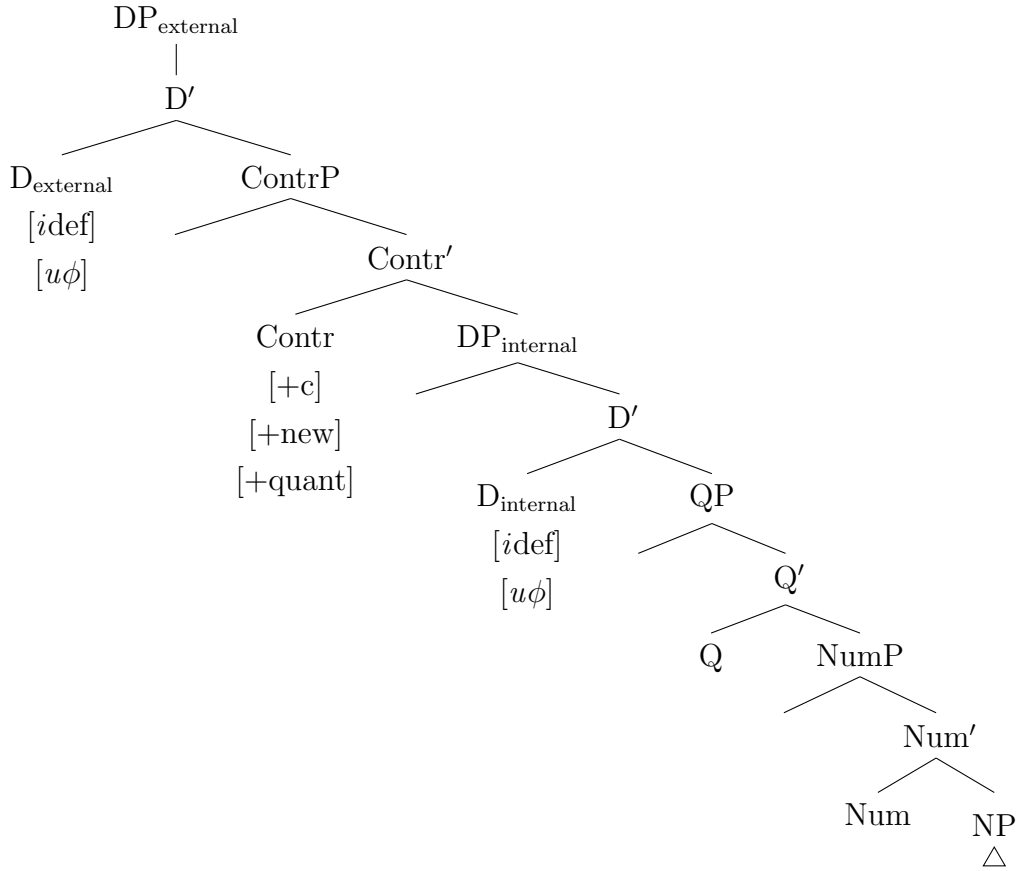
is a prerequisite condition for ellipsis to apply. Instead, I argued above that the presence of *wahad*, which I take to be inserted to support a stranded classifier in Cl, arise as a by-product of ellipsis. Moreover, it was shown above that ellipsis can target bigger chunks in the structure eliminating ClassP altogether (e.g. ellipsis with numerals). It is not clear what is the role of classifiers when ellipsis takes place with numerals.

3.4.5 Definiteness

Cornilescu and Nicolae (2012) argue that NE in Romanian is always licensed by a covert definite determiner, which is required to link the ellipsis clause to an antecedent. Following López (2000), they argue that ellipsis presupposes the construction of a common topic between the ellipsis DP and the antecedent DP. They argue that in NE two pragmatics features are required; [\pm anaphoric] and [\pm contrast] (López, 2009). Cornilescu and Nicolae note that [\pm anaphoric] involves “an obligatory dependency with respect to an antecedent” (López 2009:38). The second feature is [\pm contrast], which is assigned to remnants of NE, and entails that remnants must undergo focus movement to a focus position outside the DP (226).³⁹

(226)

³⁹Following Aboh (2004) and Laenzlinger (2005), Cornilescu and Nicolae (2012) adopt a split-DP structure, and assume that contrastive remnants vacate the internal DP and move to a higher ContrP in the external DP.



(Cornilescu and Nicolae 2012 :1083)

The analysis of Cornilescu and Nicolae (2012) entails that NE always target a definite element, which is licensed via a silent definite article. One problem with this line of reasoning is that indefinite quantifiers like *ḳtiir* (many) and *f̣way* (few) are licit in NE, as seen in (227).

- (227) sam akal ḳtiir tuffaḥ, u ana akalt f̣way tuffaḥ
 sam ate(3-m-s) many apple, and I ate(1-m-s) few apple
 ‘Sam ate many apples, and I ate few’

The productivity of NE in JA with definite NPs seems to suggest that definiteness has an effect on the licensing of ellipsis. However, as was discussed above, the presence of the definite article is not a precondition for ellipsis.

3.4.6 Subset relations

Eguren (2010) notes that instead of postulating strictly formal conditions (e.g. government, rich morphology) on nominal ellipsis, semantic conditions on ellipsis such as partitivity and D-linking explain why some determiners in English (e.g. *four*, *second*), which do not bear any overt inflection, are licit in NE contexts. Eguren (2010) assumes that elements that license NE have one thing in common: “all these items convey a partitive meaning, and therefore refer to a discourse topic that needs not be mentioned again in the elliptical DP” (Eguren 2010:436).

Eguren (2010) assumes that both Sleeman’s (1996) partitivity and López’s (2000) D-linking are one and the same thing. The two notions convey the idea that the elliptical DP is a subset of a set in the domain of discourse. Unlike the aforementioned authors, Eguren (2010) rejects formal licensing of empty nouns via an element bearing a [+Partitive] or [D-linking] feature. Instead, Eguren (2010) formulates the following condition on ellipsis in the DP:.

- (228) *The partitivity/D-linking condition on nominal ellipsis:*
Elliptical DPs always select a subset from a contextually given set.
(Eguren 2010:442)

Futhermore, Eguren (2010) argues that NE is subject to a semantic focus condition (cf. Rooth, 1996) (229).

- (229) *Contrastive focus (in nominal ellipsis):*
Contrastive focus identifies a relevant alternative or subset in a set of contextually or situationally given alternatives, and the focused constituent(s) in the remnant cannot be (semantically) identical to the corresponding part(s) in the antecedent phrase.
(Eguren 2010:443)

Unlike Corver and Van Koppen (2009), Eguren (2010) does not assume DP internal focus movement of the NE remnant. Instead, he assumes that two optional formal features are involved in NE: the the [F]ocus feature and the [E]llipsis feature, which are assigned to lexical items at the point of lexical

insertion. The [F] feature is assigned to NE remnants marking them as contrastive. The [F] feature introduces a set of alternatives at LF. The element bearing the [F] feature select one of those alternatives. As for the [E] feature, Eguren (2010) argues that the feature is assigned to a noun that is given. Both the [E] feature and the [F] feature are in complementary distribution. That is, an element cannot be contrastive and given at the same time.

If this line of reasoning is sound, then deletion of the noun would only affect the noun and nothing else, since the [E] feature is assigned directly to a given lexical item. However, in chapter 4, I show that possessors in the Construct State construction, which I take to be merged as complements of the head noun, cannot survive ellipsis because they are embedded in complement position of the deleted noun, thus they must also be elided along the head noun. Finally, as explained above, the presence of contrast on the ellipsis remnants is not a necessary condition for ellipsis since there are cases where the remnants of ellipsis do not contrast with their antecedents (see (219) above).

3.4.7 Movement and deletion

Ntelitheos (2004) offers an account of NE in terms of movement (topicalization) of the noun followed by deletion inspired by Johnson’s (2001) treatment of VPE, where it is assumed that VPE is licensed via VP topicalization. First, Ntelitheos (2004) assumes that the left periphery of the DP contains a number of functional projections related to ‘discourse functions and the structuring of information’, similarly to the CP periphery proposed by Rizzi (1997). The structure of the DP Ntelitheos (2004) assumes is given in (230).⁴⁰

- (230) [XP [TopicP [FocusP [TopicP [DefP [FP [NP]]]]]]]
(Modified from Ntelitheos 2004:14)

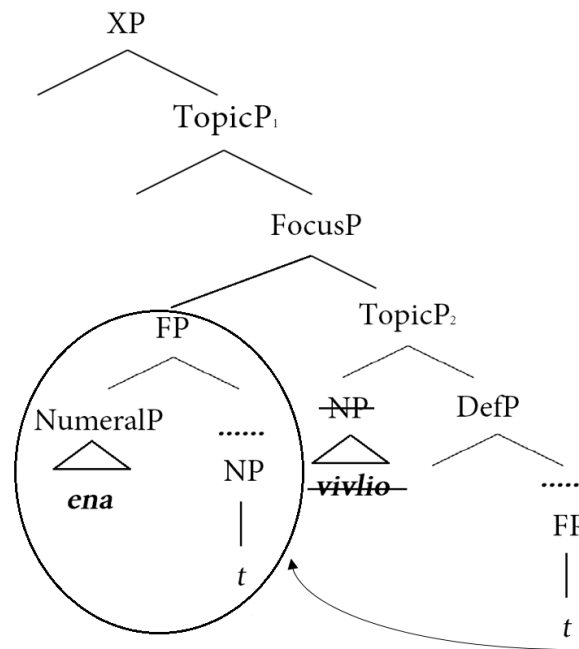
According to Ntelitheos (2004), NE is a ‘complex’ operation which involves movement of the NP, which is a topic, to the specifier of TopicP followed by

⁴⁰For Ntelitheos (2004), DefP replaces the traditional DP. FocP hosts focused elements. As for TopicP, following Rizzi (1997), Ntelitheos assumes that TopicP is recursive as is the case in the clausal domain. Ntelitheos (2004) assumes that XP is equivalent to ForcP in the clausal domain. However, he does not discuss the nature of this projection in the nominal domain.

deletion of the NP in that position. As for NE remnants, [Ntelitheos \(2004\)](#) argues that remnants of NE always carry new information, thus they are contrastive ([Giannakidou and Stavrou, 1999](#)). The contrastive element in Spec-FP (e.g. adjectives and numerals) undergo movement to Spec-FocP pied-piping the entire FP along the NP trace in its complement. The two operations are schematized as in the following diagram:

- (231) a. o Giannis agorase tria vivlia kai o Petros agorase
 the Giannis bought-3SG three books and the Petros bought
 ena vivlio
 one book
 ‘John bough three books and Petros bought one book’

b.



(Modified from [Ntelitheos 2004:14-15](#))

As for the question of why inflection is necessary in certain language when NE takes place, [Ntelitheos \(2004\)](#) first assumes that agreement is mediated through the structural relation of specifier-head ([Koopman, 1996](#)). He also assumes that each functional projection in the DP inherits the phi features of the lower projection either via head movement or phrasal movement. This

means that the the higher projections would have more phi features than the lower ones. For instance, D in English has number features expressed on demonstratives, since number is the only available in the language. More features (e.g. gender, and case) are expressed on D-elements in other languages (e.g. Greek). Ntelitheos (2004) assumes that heads above D will also acquire these features besides other feature that each projection adds. Given this, any phrase that moves to the specifier of the functional projections above D will express agreement features depending on the agreement system available in the language.

To illustrate, take English for instance, number is the only feature that is morphologically realized in the language. Thus, when adjective move to FocP, number is the only features that is overtly realized. Ntelitheos (2004) assumes that adjectives in English cannot host the number affix, yet number needs to be expressed one way or another. Consequently, the elided NP in Topic is replaced by *one*, which can host number morphology.

Let us see now how this analysis can be extended to JA. One advantage of this analysis is that it help us capture NE cases where inflection is not available (e.g. bare PP remnants). Since English *one* and *waḥad* in JA share a number of properties (see Table 3.1 above) it is worthwhile to see if the analysis of *one* in English can be extended to JA. As stated above, the reason *one* insertion takes place in English is because number must be expressed somehow, and adjectives in English cannot host the number affix, thus *one*, which can host number morphology, is inserted. Given this, the question now arises what sort of features the adjective cannot express such that *waḥad* insertion must take place. Since adjectives in JA inflect for number, gender, and definiteness, there is no features an adjectives cannot express. One might assume that there could an indefiniteness (i.e. [-def]) feature which must expressed somehow. However, as discussed in section 3.3.1, treating *waḥad* as a marker of indefiniteness is challenged by its co-occurrence with numerals and also by its occurrence following the numeral, which is not the canonical position for determiners in JA. Finally, as explained above there are cases where contrast between the antecedent and ellipsis clause is not necessary (see (219) above)

Another account which involves movement is proposed by Corver and Van Koppen (2011), who discuss NE and pronominalization in English, French,

and in a number of Dutch dialects. Corver and Van Koppen attempt to unify both strategies to account for elided nominals in those languages. They argue that under both NE and pronominalization, pronouns are present in the underlying structure of any elliptical noun phrase. On the one hand, NE involves a silent pronoun, and on the other hand, pronominalization involves a lexical non-silent *pronoun*. The choice between the two strategies depends on the properties of *n*. As for the internal syntax of these pro-forms, Corver and Van Koppen (2011) note that they consist “of a functional category *n*, which takes a root in its complement position” (Corver and Van Koppen 2011:390). Following Marantz (1997), Corver and Van Koppen (2011) argue that the Root (R) is a derived property. In other words, the nominal character of the Root (R) is determined by the functional category *n*, which is a phase noun. Corver and Van Koppen following Kayne (2005), assume that the non-pronunciation of a noun is limited to certain structural positions. Under this view, if the Root (R) undergoes movement to Spec-*n* (which is phasal), it will be invisible for spell-out at PF, and as such remains unpronounced.

To illustrate, consider the following examples from English and French:

- (232) a. a black one
 b. $[_{DP} \text{ a } [_{nP} \text{ black } [_{nP} [_n [\text{one}]_j \text{ n}(=\phi)] \text{ t}_j]]]$
 (Corver and Van Koppen 2011:393)
- (233) a. Jai achet une voiture blanche et Marie a achet
 I.have bought $a_{fem.sg.}$ car white $_{fem.sg.}$ and Marie has bought
 une verte
 $a_{fem.sg.}$ green $_{fem.sg.}$
 I bought a white car and Marie bought a green one.
 b. $[\text{une } [_{nP} \text{ verte } [_{nP} [\text{ONE}]_j \text{ } [_n, \text{ n}(=\phi) \text{ t}_i]]]]$
 (Corver and Van Koppen 2011:393)

Corver and Van Koppen (2011) argue that in (232), *one* undergoes head movement to *n*, and as such, is visible for spell-out at PF. In French on the other hand, movement of the root targets the specifier of *n*; thus, R is invisible for

Spell-out at PF, and remains unpronounced (233). The above examples show that English makes use of the pronominalization, whereas in French, NE is used instead. According to Corver and Van Koppen (2011), NE in French is manifested in the agreement features which appear on the adjectival agreement.

The analysis of Corver and Van Koppen (2011) seems to account for the ellipsis patterns observed in the languages they discuss. However, under their proposed structure, adjectives always merge in a position higher than the ellipsis site. This assumption is problematic when we consider putative cases of NE involving a noun+modifier sequence in JA. As explained above, NE might target a noun+modifier sequence with a numeral appearing as a remnant of NE by itself, as seen in (128), repeated here as (234).

- (234) sam gara talaat kutub jdiidih, u ana
 sam read(3-m-s) three(m-s) book(m-pl) new(f-s), and I
 garait xamsih ~~kutub~~ ~~jdiidih~~
 read(1-m-s) five(f-s) ~~book(m-pl)~~ ~~new(f-s)~~
 ‘Sam read three new books, and I read five’

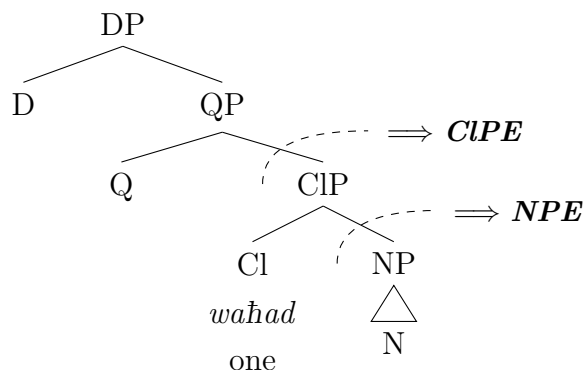
Under Corver and Van Koppen’s (2011) analysis adjectives are placed higher than nP , such that they can appear as remnants of ellipsis. The fact that modifiers can be missing along with the noun, as in (160), is problematic for their analysis. This, however, does not rule out the existence of ellipsis at the root level as argued by Corver and Van Koppen. In fact, Saab (to appear) assumes that the Dutch ellipsis patterns discussed in Corver and Van Koppen (2011) can be explained under the assumption that ellipsis in those dialects is an instance of RootP ellipsis (i.e. deletion of the root by an [E] feature on n). However, this does not mean that it is the only type of ellipsis available in the DP since, arguably, ellipsis can target bigger chunks eliminating ClP altogether.

Summing up, I showed that the analysis proposed in this chapter fares better than the alternative analyses of nominal ellipsis explored above. The previous accounts of nominal ellipsis are either too language-specific by nature, or cannot fully capture the entire set of facts in JA.

3.5 Conclusion

This chapter has offered a unified account of ellipsis and pronominalization in JA DPs. I argued following [Saab and Lipták \(2016\)](#) that the application of ellipsis inside the extended nominal projection can take place at the NP (NPE) or CIP (CIPE) levels. Moreover, I argued that only NPE gives rise to a stranded affix scenario, where a silent classifier is left stranded, and in such a case, the pronominal element *waħad* is inserted to support the stranded classifier. In support of my analysis, I analyzed ellipsis inside numeral-containing DPs providing morphological evidence for the idea that ellipsis in the DP could be NPE or CIPE. The following diagram illustrates both types of ellipsis in the DP:

(235) *Two types of ellipsis in the DP*



One advantage of the present analysis is that it unifies both ellipsis and pronominalization under one single account. The arguments presented in this chapter support the view that pronominalization in JA is a kind of surface anaphora, and as such, is derived from ellipsis.⁴¹

In the next chapter, I discuss possessive DPs in JA, and the way they behave under ellipsis.

⁴¹[Murphy \(2018\)](#) proposes an analysis of anaphoric *one* in English where it assumed that *one* is the surface realization of a stranded ϕ head (CL in the present analysis), which takes place after ellipsis targets the complement of ϕ : NP.

Chapter 4

Possession and Ellipsis

The purpose of this chapter is to discuss the syntax of adnominal possessives and their behaviour under ellipsis in JA in order to extend the empirical converge of the analysis proposed in chapter 3. Possession in JA is expressed via three main constructions: the Construct State (236), the Free State (237), and the *Um/Abo* construction (238).

- (236) sayyarit il-walad (*Construct State*)
car(f-s) the-boy(m-s)
‘The boy’s car’

- (237) il-sayyaara tabfit il-walad (*Free State*)
the-car(f-s) prep(f-s) the-boy(m-s)
‘The car of the boy’

- (238) a. il-walad abu il-sayyara il-xadra (*Abu*)
the-boy(m-s) prep(m-s) the-car(f-s) the-green(f-s)
‘The boy with the green car’
b. il-bint um il-sayyara il-xadra (*Um*)
the-girl(m-s) prep(f-s) the-car(f-s) the-green(f-s)
‘The girl with the green car’

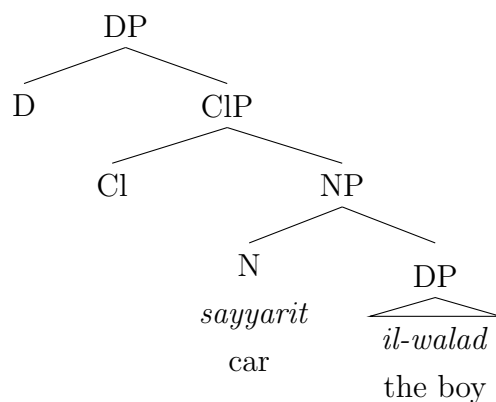
In the above examples, the same thematic role (i.e. possession) is expressed in apparently different constructions. The syntax of adnominal possessives in Arabic has been the topic of much debate in the past several decades (Ritter, 1987, 1988, 1991; Fassi-Fehri, 1993; Borer, 1996, 1999; Fassi-Fehri, 1999; Benmamoun, 2000; Kremers, 2003; Shlonsky, 2004, 2012; Bardeas, 2009). In this chapter, I discuss the three constructions above showing that they differ considerably in their syntax. I provide evidence from nominal ellipsis that the CS and FS have different structures contra to what has been claimed under the uniform analysis proposed by Ritter (1991), where it is claimed that the possessor and the possessum in CSs and FSs have the same structural position. Under Ritter’s analysis, the difference between the two constructions boils down to where the possessum moves to, and in whether the possessor moves from its merge position or not. I show that any successful instance of ellipsis with CSs must involve both the possessor and the possessum (239), whereas ellipsis with FSs does not have this restriction (240).

(239) [DP ... [NP ~~possessum~~ possessor] ...]

(240) [DP ... [NP ~~possessum~~] ... possessor]]

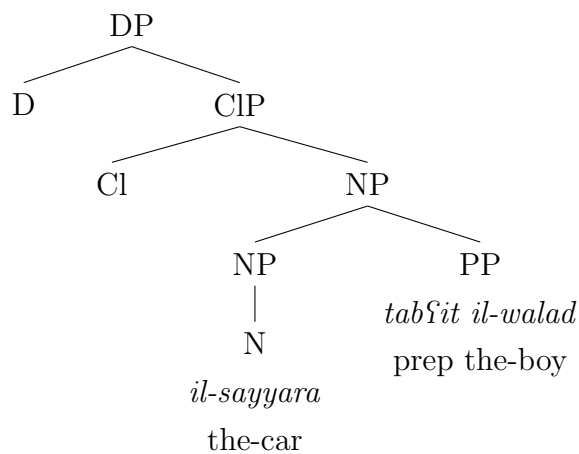
In this chapter, I propose two distinct structures for CSs and FSs. For CSs, I propose that the head noun (the possessum) takes the genitive phrase (possessor) as its complement (Heller, 2002; Kremers, 2003; Shlonsky, 2004, 2012; Bardeas, 2009). Such an account does not require any superfluous movement operations, and can account for the main properties of CSs (241).

(241)

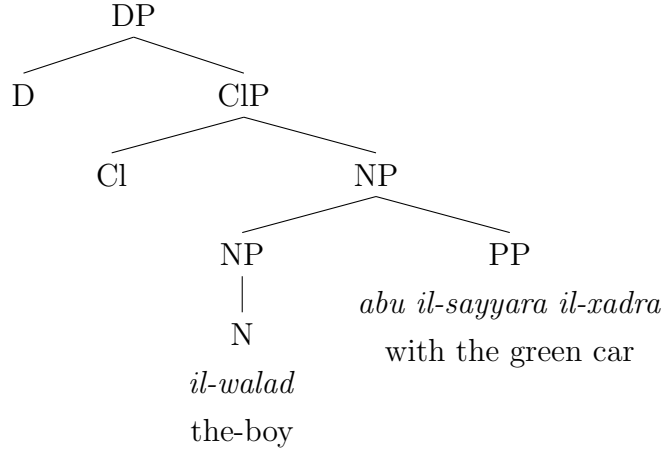


For FSs, I propose that the preposition and its complement DP (the possessor) merge as an adjunct of the head noun (Ritter, 1987; Bardeas, 2009) (242). I extend the analysis of the FS to the *Um/Abo* construction and assume that the both particles are adjuncts of the head noun (243).

(242)



(243)



The question that arises in any non-uniform analysis is how the same thematic roles can be assigned to different structural positions. I adopt the idea that possession is expressed through the R relation (Barker, 1995, 2011; Partee and Borschev, 2003; Vikner and Jensen, 2002), which must be added somewhere in the noun phrase in order to express possession. For the FS, I propose that the R relation is contributed by a dedicated head, the preposition *tabaʕ* which adjoins to the extended nominal projection. For the CS, I propose that the R relation is contributed by the head of the CS, which I suggest is converted into a relational noun of type $\langle e, \langle e, t \rangle \rangle$ through a lexical rule (Ouwayda, 2012). In support of this, I show that the thematic readings available in the CS are always a superset of those that are available in the FS. This follows from my analysis, since the CS structure is also compatible with nouns that are inherently relational, which cannot occur in the FS. This follows from the different structures I posit for the CS and FS, since inherently relational nouns independently require a head-complement structure.

The organization of this chapter is as follows. In the next section, I provide a brief overview of the main properties of CSs and FSs in JA. Section 4.2 explores the behaviour of CSs and FSs under ellipsis, and demonstrates how the two constructions behave differently in this regard. In section 4.3, I provide my analysis for the CS and the FS. In section 4.4, I extend the empirical coverage of my analysis to Italian CSs. Additional evidence for my account from the distribution of thematic relations in CSs and FSs is discussed

in section 4.5. In section 4.6 I explore a number of previous accounts of the CS and show how they fail to capture the ellipsis facts. Section 4.7 concludes the chapter.

4.1 Introducing Adnominal Possessives in JA

In this section, I provide an overview of the main properties of adnominal possessives in JA. To begin with, consider the CS in (244).¹²

- (244) *bait-u* *al-muddaris-i* *al-kabiiru-u*
 house(m-s) the-teacher(m-s-gen) the-big(m-s-nom)
 ‘The teacher’s big house’

The CS in (244) consists of a head noun *bait-u* (house) in initial position followed by a DP *al-muddaris-i* (the teacher) which is marked for genitive case. Although the head noun lacks any article, the whole DP inherits the definiteness value of the genitive phrase in a phenomenon known as (In)definiteness spreading (see Ritter, 1991; Siloni, 1997; Danon, 2008). Evidence for this spreading comes from the agreement pattern of adjectives modifying the head noun. As mentioned in chapter 1, adjectives in JA agree with the noun they modify in number, gender, definiteness, and case (in MSA). In (244), the adjective *il-kbiir* (the big) agrees with the head noun in number and gender. The adjective also agrees in definiteness with the head noun, although definiteness is not overtly marked on the noun. Another syntactic property of CSs is that the canonical position of adjectives in those DPs differs from non-CS DPs. In non-CS DPs, adjectives follow the modified noun (245), whereas in the CS, adjectives modifying the head noun cannot appear immediately after it, but rather must follow both the head noun and the genitive phrase. Compare (244) above to (246).

¹For ease of presentation, I use a representative example from MSA in order to highlight the distribution of case morphology inside the CS.

²In this chapter, I focus on nominal Construct States. I do not concern myself with discussing other types of the Construct State (i.e. verbal, and adjectival Construct States). See Bardeas (2009) for a discussion of adjectival and verbal Construct States in Arabic, and see Shlonsky (2004) for a relevant discussion in Hebrew.

- (245) il-bait il-kbiir
 the-house(m-s) the-big(m-s)
 ‘The big house’

- (246) *bait il-kbiir il-muddarris
 house(m-s) the-big(m-s) the-teacher(m-s)
 ‘The teacher’s big house’

CSs are often contrasted with FSs in JA. There are three properties that distinguish the CS and the FS. First, the head noun in FSs can host the definite article and its definiteness is independent of the definiteness of the possessor. Second, the head noun and the genitive DP are separated by the preposition *tabaʕ* in JA,³ and *fel* in Hebrew. Finally, a modifying adjective may appear immediately after the head noun and before the possessor, as seen in (247).

- (247) il-bait il-kbiir [tabaʕ il-mudarris]
 the-house(m-s) the-big(m-s) prep(m-s) the-teacher(m-s)
 ‘The teacher’s big house’

Unlike the preposition *fel* in Hebrew, *tabaʕ* agrees in number and gender with the head noun, as seen in (248).

- (248) a. il-gamiis [tabaʕ sam]
 the-shirt(m-s) prep(m-s) sam
 ‘Sam’s shirt’
 b. il-bloozih [tabʕit sam]
 the-blouse(f-s) prep(f-s) sam
 ‘Sam’s blouse’
 c. il-gumsaan [tabʕuun sam]
 the-shirt(m-pl) prep(m-pl) sam
 ‘Sam’s shirts’

³Speakers of other dialects of Arabic make use of different prepositions with FSs: *ħag* in Makkan Arabic, *dyaʕ* in Moroccan Arabic, and *mal* in Kuwaiti Arabic. See Brustad (2000) for a typological study of FSs across several dialects of Arabic.

- d. il-balayez [tabʕaat sam]
 the-blouse(f-pl) prep(f-pl) sam
 ‘Sam’s blouses’

One could assume that *tabaʕ* is a preposition with agreeing features. A similar proposal has already been made by Bardeas (2009) for the preposition *ḥag* in Makkan Arabic, which also agrees in number and gender with the head noun.

In JA and other varieties of Arabic (See Mohammad (1999) for Palestinian Arabic) the particles *Abu* (father of) and *um* (mother of) are used in combination with nouns and adjectives to express possessive relations. The particle *Abu* is used with masculine nouns (249a) and the particle *Um* is used with feminine nouns (249b).

- (249) a. il-zalamih il-tawiil abu sayyara xadra (*Abu*)
 the-man(m-s) the-tall(m-s) prep(m-s) car(f-s) green(f-s)
 ‘The tall man with the green car’
- b. il-mara il-tawiilih um sayyara xadra (*Um*)
 the-woman(m-s) the-tall(f-s) prep(f-s) car(f-s) green(f-s)
 ‘The tall woman with the green car’

The *Um/Abu* constructions exhibit similar properties to the FS. First, like the FS, the definite article can appear on the head noun with these constructions. Second, adjectives modifying the head noun can appear between the head noun and the *Um/Abu* particles.⁴

Summing up, I have provided a brief overview of the main properties of each of the possessive constructions to be discussed in this chapter. The next section discusses ellipsis inside possessives DPs.

4.2 Adnominal Possessives and Ellipsis

In this section, I investigate the behaviour of adnominal possessives under nominal ellipsis. I show that the CS on one hand and FS and *Um/Abu* con-

⁴The range of thematic relations available for the FS and *Um/Abu* constructions is discussed in section 5.

structions on the other hand behave differently with regard to ellipsis. In CSs, ellipsis must target both the possessor and the noun together. In contrast, the head noun can undergo elision in isolation in the FS and in the *Um/Abu* constructions.

Starting with the CS, consider the following examples which involve ellipsis in both JA and Hebrew respectively:⁵⁶

- (250) *bait il-mara akbar min [beyt il-zalamih]
 house(m-s) the-woman(f-s) bigger than house(m-s) the-man(m-s)
 ‘The woman’s house is bigger than the man’s’

- (251) *beyt ha-ifa gadol me [beyt ha-if]
 house(m-s) the-woman(f-s) bigger than house(m-s) the-man(m-s)
 ‘The woman’s house is bigger than the man’s’

The above examples show that deletion of the head noun of the CS yields ungrammatical results. The same behaviour is also attested in independent ellipsis sentences which do not involve comparison, as seen in (252).

- (252) *sam axad sayyaarit fadi, u ana axadit ~~sayyaarit~~ zain
 sam took.(3-m-s) car(f-s) fadi and I took(1-m-s) car(f-s) zain
 ‘Sam took Fadi’s car, and I took Zain’s’

The grammatical counterparts of the above examples are seen in (253) and (254) respectively.

- (253) bait il-mara akbar min ~~il-bait~~ [tabaʕ
 house(m-s) the-woman(f-s) bigger than the-house(m-s) prep
 il-zalamih]
 the-man(m-s)
 ‘The woman’s house is bigger than that of the man’

⁵Although I’m focusing on JA in this chapter, the ellipsis patterns found in JA CSs are also found in Hebrew. For consistency, I will keep using examples from JA, and will refer to Hebrew when necessary.

⁶ Thanks to Danniella Samos for providing native speakers’ judgements on Hebrew.

- (254) sam axad sayyaarit fadi, u ana axadit ~~il-sayyaara~~
 sam took.(3-m-s) car(f-s) fadi and I took(1-m-s) the-car(f-s)
 [tabfiit zain]
 prep(f-s) zain
 ‘Sam took Fadi’s car, and I took that of Zain’s’

In both (253) and (254), there is a shift from the CS in the antecedent clause to the prepositional counterpart of the CS in the ellipsis clause: the FS. Any successful instance of ellipsis with CSs must involve both the the possessor and the possessed, as in the following example:

- (255) bait il-mara il-jdiid akbar min [beyt
 house(m-s) the-woman(f-s) the-new(m-s) bigger than house(m-s)
 ~~il-mara~~] il-gadiim
 the-woman(m-s) the-old(m-s)
 ‘The woman’s new house is bigger than the old’

In (255), both the possessor and the possessum are elided with adjectives modifying the possessum appearing as remnants of ellipsis. Moreover, adjectives (and other elements) modifying the head noun can only act as remnants of ellipsis. Adjectives modifying the possessor, however, cannot appear as remnants of ellipsis. In (256), for instance, the adjective *il-gasiirih* (the short) which modifies the possessor *il-mara* (the woman) cannot appear as remnant of ellipsis.

- (256) *bait il-mara il-tawiilih akbar min [bait
 house(m-s) the-woman(f-s) the-tall(f-s) bigger than house(m-s)
 ~~il-mara~~] il-gasiirih
 the-woman(m-s) the-short(f-s)
 ‘The tall woman’s house is bigger than the short’

Given the shift from the CS to the FS in (253), one might wonder whether we can be sure that the elided noun and possessor are FS, and not CS. In particular, we could entertain the idea that ellipsis is for some reason blocked

in the CS altogether. Given this, the example in (255), would be analyzed as in (257).⁷

- (257) bait il-mara il-jdiid akbar min [~~il-beyt~~
house(m-s) the-woman(f-s) the-new(m-s) bigger than the-house(m-s)
tabaʕ il-mara] il-gadiim
prep(m-s) the-woman(m-s) the-old(m-s)
‘The woman’s new house is bigger than the old’

However, such an assumption faces problems when we consider examples with inalienable possession. As will be discussed in section 4.5, the range of thematic relations available for the CS and FS is not always the same. For instance, the FS in JA is incompatible with inalienable possession (see [Mohammad, 1999](#); [Soltan, 2007](#)).⁸ In such cases the CS is used instead. Consider the contrast between the following two examples:

- (258) eid sam
hand(f-s) sam
‘Sam’s hand’

- (259) *il-eid tabʕit sam
the-hand(f-s) prep(f-s) sam
‘Sam’s hand’

If we maintain that there is a shift from the CS to the FS when ellipsis takes place, then we would predict that ellipsis examples with inalienable possession are not possible. This prediction is not borne out, as seen in (260).

⁷I discuss the relative ordering of APs and PPs inside the FS in section 4.3.2.

⁸ Examples like (i) seem to suggest that the FS is compatible with inalienable possession.

- (i) il-eid il-yamiin tabʕit Sam
the-hand(f-s) the-right(f-s) prep(f-s) sam
‘Sam’s right hand (assistant)’

However, such examples are used metaphorically and do not convey inalienable meaning. In particular, *Sam’s right hand* here means Sam’s assistant.

- (260) eid sam il-ʃmaal atwal min eid ~~sam~~ il-yamiin
 hand(f-s) sam the-left(f-s) longer than hand(f-s) sam the-right(f-s)
 ‘Sam’s left hand is longer than his right hand’

Given the ungrammaticality of (259), the ellipsis site in (260) cannot contain the FS, but rather, a CS.

Now, compare the example in (250) with the corresponding FS counterpart in (261).

- (261) il-bait tabaʃ il-mara akbar min il-beyt
 the-house(m-s) prep(m-s) the-woman(f-s) bigger than the-house(m-s)
 [tabaʃ il-zalamih]
 prep(m-s) the-man(m-s)
 ‘The house of the woman is bigger than that of the man’

- (262) ha-bayit ʃel ha-iʃ gadol me ~~ha-bayit~~
 the-house(m-s) prep(m-s) the-woman(f-s) bigger than the-house(m-s)
 [ʃel ha-iʃ]
 prep(m-s) the-man(m-s)
 ‘The house of the woman is bigger than that of the man’

The above examples show that, unlike in the CS, the noun can be elided on its own in the FS. The possessor and the accompanying preposition appear as remnants of ellipsis.⁹

Having established that both the possessor and the possessum must be elided in the CS, I now discuss the behaviour of possessors in the FS under ellipsis in more detail. Examples targeting the possessor in FS are only possible if the same possessor is present in both the ellipsis and antecedent clauses, and if the head noun is elided as well, as in (263).

⁹ See Ritter (1987, 1991) for arguments in favour of treating *ʃel* as a preposition in Hebrew. Also see Bardeas (2009) for a similar treatment of *ħag*, which corresponds to *tabaʃ*, in Makkan Arabic.

- (263) il-bait il-jdiid tabaʕ sam, akbar min
 the-house(m-s) the-new(m-s) prep(m-s) sam bigger than
 il-gadiim
 the-old(m-s)
 ‘Sam’s new house is bigger than the old one’

Deletion of the possessor in (263) might suggest that possessors occupy the same position in both FSs and CSs. However, such an assumption does not explain why possessors (when contrastive) in the FS appear as a remnants of ellipsis, whereas there is no way for possessors to escape the ellipsis site in the CS as illustrated above. Note that it is possible for the possessor to be missing in the FS in the presence of the noun, as in (264) and (265) contra my claim for (263).

- (264) il-bait tabaʕ sam, w-il-sayyaara inbaʕu
 the-house(m-s) prep(m-s) sam, and-the-car(f-s) sold(3-m-pl)
 imbarih
 yesterday
 ‘Sam’s house and car were sold yesterday’

- (265) il-bait il-jdiid tabaʕ sam, akbar min
 the-house(m-s) the-new(m-s) prep(m-s) sam bigger than
 il-bait il-gadiim
 the-house(m-s) the-old(m-s)
 ‘Sam’s new house is bigger than the old house’

This is not ellipsis, but rather, the readings in which the *tabaʕ* phrase is understood as being missing is determined pragmatically. If this is ellipsis, then it is predicted that the only reading available is one where the car in and the house in both examples must belong to Sam. However, another possible reading for both examples is that the car and house might belong to someone else other than Sam. Moreover, the addition of a demonstrative in the ellipsis clause disambiguate the sentence making it only referring to a different possessor. The

same is true in English. For instance, a sentence like *Sam's new house is bigger than the old house* can be ambiguous between two readings, similarly to the above JA examples. However, the addition of a demonstrative as in *Sam's new house is bigger than that old house* only gives rise to a reading where the house does not belong to Sam, which is also true of the JA examples in (264) and (265) above. It could be the case that in both examples the definite article is situationally-restricted in the sense of Elbourne (2005). Finally, assuming that ellipsis targets adjuncts or optional elements like the *tabaʕ* phrase to the exclusion of the head noun is an ad-hoc assumption given the idea that ellipsis must obligatorily include the noun and optionally some accompanying modifiers (Cinque, 2012).

Turning now to *Um/Abu* constructions, the examples in (266) and (267) show that, like the FS, the head noun can be elided by itself with adjectives modifying the head noun appearing as remnants of ellipsis.

- (266) il-walad abu il-gamiis il-aswad aḏka min
the-boy(m-s) prep(m-s) the-shirt(m-s) the-black(m-s) smarter than
~~il-walad~~ abu il-gamiis il-axdar
the-boy(m-s) prep(m-s) the-shirt(m-s) the-green(m-s)
‘The boy with the black shirt is smarter than the one with the green shirt’

- (267) il-bint um il-gamiis il-aswad aḏka min
the-girl(f-s) prep(f-s) the-shirt(m-s) the-black(m-s) smarter than
~~il-bint~~ um il-gamiis il-axdar
the-girl(m-s) prep(f-s) the-shirt(m-s) the-green(m-s)
‘The girl with the black shirt is smarter than the one with the green shirt’

In summary, I have shown that the CS behaves differently from the other two possessive constructions with respect to ellipsis. In the next section, I lay out an account that captures the variation observed above.

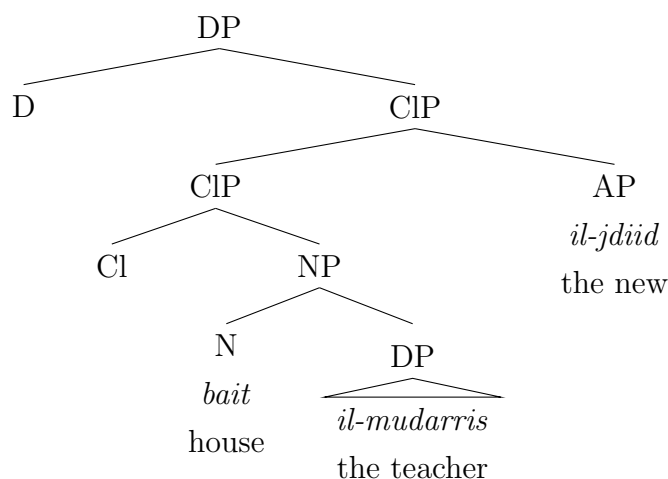
4.3 Analysis of Adnominal Possessives in JA

In this section, I develop a proposal that accounts for the variation with respect to the possibility of ellipsis in possessive constructions in Semitic. My core claim is that the CS and FS have two distinct syntactic structures. For CSs, I argue that the head noun in those constructions takes the genitive DP as its complement (Heller, 2002; Kremers, 2003; Shlonsky, 2004, 2012; Bardeas, 2009). Contra the aforementioned authors, I argue that no movement of any constituent takes place in the derivation of CS constructions. As for FSs, I argue that the preposition and its complement DP (the possessor) merge as adjuncts of the head noun (Ritter, 1987; Bardeas, 2009). Finally, I extend the analysis given for the FS to the *Um/Abu* construction.

4.3.1 Analysis of the construct state

In this section, I put forward a non-movement account for the JA CS. I focus mainly on explaining the ellipsis facts observed with this construction. Then I show how the main properties of the CS can be accounted for within the structure I propose in this section. To begin with, I propose that JA CSs have the structure in (268).¹⁰

(268)



¹⁰For ease of presentation, I will use examples from JA. I assume, however, that the analysis extends to Hebrew too.

In (268), the head noun takes the genitive DP as its complement, which explains the obligatory adjacency between the two elements of the CS (Heller, 2002; Kremers, 2003; Shlonsky, 2004, 2012; Bardeas, 2009). As mentioned in chapter 1, I assume that adjectives modifying the head noun merge as adjuncts of a nominal projection above NP, such as ClP. Recall from chapter 3 that there are two types of ellipsis in the DP: (i) NPE which targets the NP alone, and (ii) ClPE which targets the entire ClP. I argue that ellipsis with the CS is an instance of NPE. The obligatory deletion of both elements in the CS when ellipsis takes place follows automatically under the structure in (268). Recall that only modifiers of the head noun can appear as remnants of ellipsis, whereas those modifying the complement DP cannot. If we maintain the adjunction analysis of adjectives adopted in this thesis, then the appearance of adjectives associated with the head noun receives a straightforward explanation. To illustrate, consider the contrast in grammaticality between (255) and (256) repeated here as (269) and (270).

- (269) bait il-mara il-jdiid akbar min [beyt
house(m-s) the-woman(f-s) the-new(m-s) bigger than house(m-s)
~~il-mara~~] il-gadiim
the-woman(m-s) the-old(m-s)

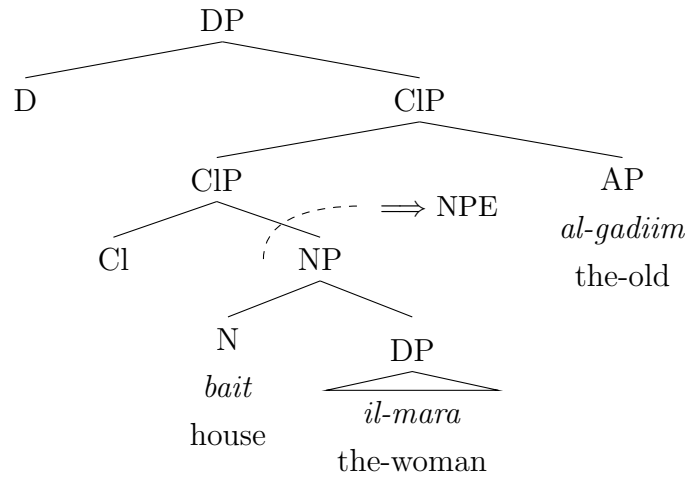
‘The woman’s new house is bigger than the old one’

- (270) *bait il-mara il-tawiilih akbar min [bait
house(m-s) the-woman(f-s) the-tall(f-s) bigger than house(m-s)
~~il-mara~~] il-gasiirih
the-woman(f-s) the-short(f-s)

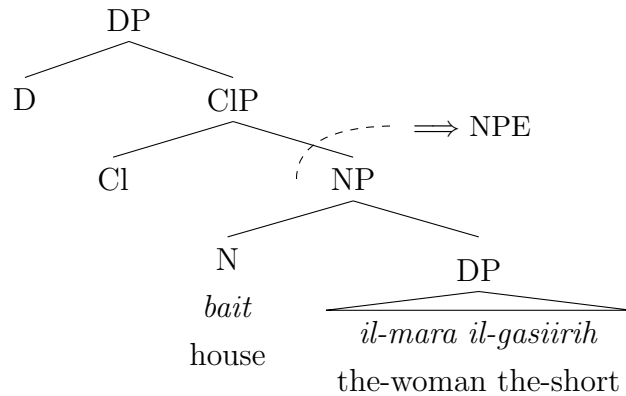
‘The tall woman’s house is bigger than the short one’

The fact that (269) is grammatical relates to the high position of the adjective *il-gadiim* (the old) modifying the head noun. In (270), however, the adjective (*il-gasiirih*) (the short) is located inside the ellipsis site, and as such, cannot survive ellipsis. The examples in (269) and (270) would have the configurations in (271) and (272) respectively.

(271)



(272)



If the possessor in the CS is a full DP, then it is predicted that ellipsis might target the possessor inside the lower DP to the exclusion of the head of the CS. The example in (273) shows that this is indeed the case.

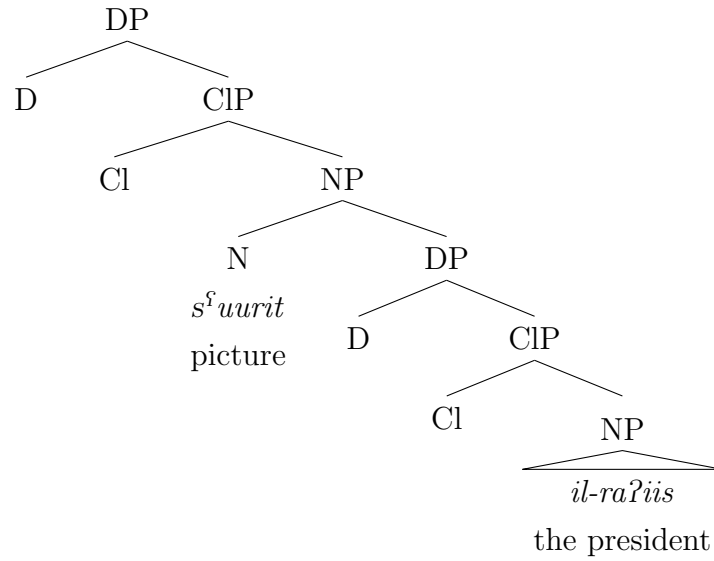
(273) [DP bayt [DP ~~il-walad~~ il-tawiil]]
house(m-s) the-boy(m-s) the-tall(m-s)
'The house of the tall boy'

Let me now turn to how we can capture some of the properties that distinguish CS with a structure like (268). One way to account for definiteness spreading would be to follow Danon (2008) who proposes that definiteness spreading in CSs can be explained via the feature sharing model of Agree (Frampton and Gutmann, 2000, 2006; Pesetsky and Torrego, 2007). Following Borer (1988, 1999), Danon (2008) assumes that definiteness is a feature for which the noun itself is specified.¹¹ Danon argues that the possessum in the CS enters the derivation with an unvalued [def] feature, whereas the possessor bears a valued [def] feature. Danon argues, as I do here, that the genitive phrase is a DP complement of the main DP in CSs. Moreover, he assumes that D bears an unvalued [def] feature. This way we have two Ds each of which bears an unvalued [def] feature. Danon (2008) notes that for both the head of the CS and its complement having a valued or an unvalued feature has nothing to do with the interpretability of those features. Danon (2008) refers to Pesetsky and Torrego's (2007) idea that that an unvalued occurrence of a feature could be interpretable after feature sharing takes place. In other words, despite the fact that the definiteness feature of the head of the CS is unvalued, it can still be interpreted semantically. By the same token, the fact that the head noun in the possessor DP enters the derivation with a valued definiteness feature does not necessarily mean that this instance of the feature will be interpreted (Danon 2008:896). Given this, Danon (2008) proposes that the derivation of the CS in (274) proceeds in a bottom-up fashion with a series of Agree operations. These Agree operations can be summarized as in (275).¹²

- (274) a. s^ʕuurit il-raʔiis
 picture(f-s) the-president(m-s)
 ‘The president’s picture’
 b.

¹¹Borer (1999) argues that (in)definiteness in Semitic is a feature, base-generated on the noun, whose value percolates up a word structure. Evidence for treating (in)definiteness as a feature comes from (in)definiteness concord in adjectives. Borer (1999) argues that adjectives agreeing in (in)definiteness are not referential nor have properties that might suggest treating them as DPs. Therefore, she concludes that the definite article that appears on modifying adjectives is an agreeing feature which is semantically vacuous.

¹²In his analysis, Danon (2008) focuses on the CS in Hebrew. I use examples from JA which are equivalent to his original examples in order to make the discussion clearer.



- (275)
1. Agree between the embedded D and the embedded NP
 2. Agree between the higher N and the embedded DP
 3. Agree between the higher D and the higher NP

(Danon 2008:896)

According to Danon (2008), Agree in this sense depends on the notion of c-command. As the structure in (274b) shows, each of the nodes involved in Agree is c-commanding the other. As such, a chain of nodes sharing the [def] feature of the lower NP is created. The shared [def] feature is indicated by an index in the gloss as seen in (276).

- (276)
- | | | | |
|---|---------------------------------|---|--|
| <i>e</i> | <i>s^fuurit</i> | <i>e</i> | <i>il-ra?iis</i> |
| [_{DP} D.DEF _{<i>i</i>} | picture.DEF _{<i>i</i>} | [_{DP} D.DEF _{<i>i</i>} | the-president.DEF _{<i>i</i>}]] |

(Modified from Danon 2008:896)

Danon (2008) then addresses the interpretability of the [def] feature. He follows Pesetsky and Torrego (2007) who adopt the Thesis of Radical Interpretability (Brody, 1997) which simply states that “each feature must receive

a semantic interpretation in some syntactic location” (Danon 2008: 894) . Under this view, the interpretability of the definiteness feature could potentially take place at either levels of the CS. Danon (2008) assumes that after Agree takes place, one of the instances of the shared definiteness feature must be interpreted, but this does not necessarily mean that the one that was originally valued is the one to be interpreted. I take this idea to be true and adopt the specific implementation in Adger and Ramchand (2005) who propose the principle *Interpret Once under Agree* (IOA), which simply states that “interpretable features in an Agree chain are interpreted only once” (Adger and Ramchand 2005: 174). Following Danon (2008) I take the higher D to be locus of semantic interpretation of the [def] feature since the whole CS interpreted as definite.

As for the morphological realization of the definite article, it was shown above that the head of the CS lacks the definite article despite the fact that the whole CS is interpreted as definite. To account for this, Danon (2008) assumes that having a [def] feature marked on a head in the Agree chain does not necessarily entail that the head would realize the definite article overtly. Moreover, the interpretability of the [def] feature has no effect on the position in which the article is spelled-out. Given the fact that the unvalued [def] of the CS head gets valued via Agree, nothing in principle prevents the article from being spelled out in the higher DP. Once piece of evidence for the presence of the definite article in the higher DP at some point in the derivation comes from pronominalization. Recall from chapter 3 that pronominalization is blocked with definite NPs due to the presence of a copy the definite article in Cl, where pronominal *waḥad* is realized. Moreover, it was shown chapter 3 that pronominalization is blocked with the CS, as the example in (277) shows.

- (277) *waḥad sam
 one(m-s) sam
 ‘One (book) for Sam’

In chapter 3, I argued that pronominalization is blocked inside definite DPs because the definite article merges a copy in Cl. If this line of reasoning is sound, then nothing in principle prevents the article from being realized on

the head noun. In fact, [Borer \(2013\)](#) shows that in a recent development in Modern Hebrew, the definite article is spelled-out of the head of the CS, as seen in (278). The same issue is observed in MSA. [Shormani \(2017\)](#) shows that the head of the CS can actually take the definite article contra to what has long been suggested, as seen in (279).

- (278) ha.bet sefer ha.ze
 the-house book the-this
 ‘This school’
([Borer 2013:223](#))

- (279) al-mutqin-uu l-waajib-i muhtaram-uuna
 the-well-performer-NOM.PL the-duty-GEN.PL respectable-NOM.PL
 jidd-an
 very-ACC
 ‘The well-performers of their duties are very respectable’
([Shormani 2017:136](#))

Given this, I assume that the head of the CS can actually take the definite article. The reason for the absence of the article on head of the CS could be to eliminate redundancy since the article is already spelled-out in the lower DP. In other words, the article is present in the narrow syntax but gets deleted at PF. Alternatively, [Danon \(2008\)](#) assumes that the lack of the overt realization of the article on the head of the CS “could either be part of what characterizes the lexical process that derives them from free heads, or a by-product of their phonological properties, as argued by [Siloni \(2003\)](#)”.¹³

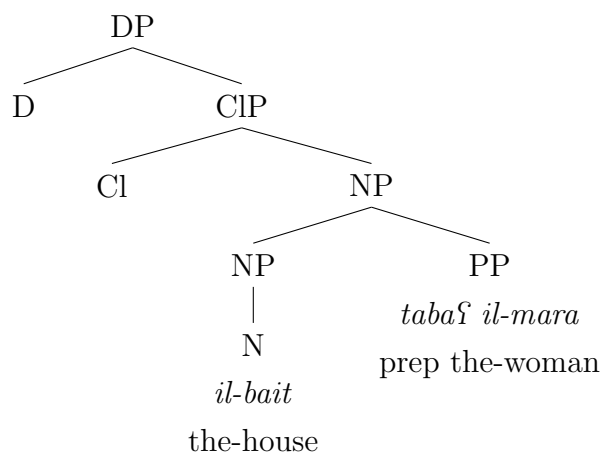
In this section, I have argued that CS constrictions have a head-complement structure where the head of the CS takes the possessor DP as its complement. The structure proposed in this section not only captures the ellipsis facts observed with this construction, but can also account for definiteness spreading. In the next section, I present my analysis of the FS and *Um/Abu* constructions.

¹³Other alternatives have been proposed in the literature. For instance, [Shlonsky \(2004\)](#), who assumes that both elements of the CS move to Spec-DP, argues that the absence of definiteness marking on the CS head is due to the fact that “either Spec/D or D⁰ can be lexically filled at Spellout, but not both” ([Shlonsky, 2004:1508](#)).

4.3.2 Analysis of the free state

In this section, I present my analysis of the FS. As illustrated above, the differing behaviour of CSs and FSs under ellipsis requires analyzing both constructions separately. To this end, I propose that FSs have the structure in (280).

(280)



I argue that *tabaʕ* and its complements merge as adjuncts of NP. This hypothesis aligns with Ritter’s (1987) original analysis of FSs, where the preposition *fel*, which has a possessive interpretation, and its complement (the possessor) merge as adjuncts of the head noun (also see Bardeas 2009 and Soltan 2007 for a similar proposal in MSA and Egyptian Arabic respectively). The exact lexical category of *tabaʕ* is not of crucial relevance to the analysis developed in this chapter, but we can assume that it is a preposition for the sake of concreteness.¹⁴ An important consequence of this proposal is that *tabaʕ*, and its complement DP, regardless of their lexical category, do not occupy the same position as possessors in CSs, as shown by the ellipsis facts observed above.

If adjectives merge above NP, as suggested by their inability to be in the ellipsis site, then the structure in (280) does not capture the unmarked order of PPs and APs inside the FS. The relative ordering of APs and PPs inside

¹⁴In fact, *tabaʕ* (and its counterparts in other dialects of Arabic), has been viewed as being either a preposition (Bardeas, 2009), or an adjective-like particle (Hoyt, 2008).

the FS is NP \succ AP \succ PP, as seen in (281a). Some speakers find the order NP \succ PP \succ AP marginal, as seen in (281b).

- (281) a. il-bait il-kbiir [tabaʕ il-mara]
 the-house(m-s) the-big(m-s) prep(m-s) the-woman(f-s)
 ‘The big house of the woman’
- b. ?il-bait [tabaʕ il-mara] il-kbiir
 the-house(m-s) prep(m-s) the-woman(f-s) the-big(m-s)
 ‘The big house of the woman’

However, speakers who find (281b) marginal, find the example in (282b), which involves the use of a pronominal clitic grammatical.

- (282) a. il-bait il-kbiir [tabaʕ-ha]
 the-house(m-s) the-big(m-s) prep(m-s)-her
 ‘Her big house’
- b. il-bait [tabaʕ-ha] il-kbiir
 the-house(m-s) prep(m-s)-her the-big(m-s)
 ‘Her big house’

When a pronominal clitic is used instead of a full DP as in (282), speakers do not show specific preference to any ordering. Such flexibility of ordering seems to suggest that the unmarked order NP \succ AP \succ PP is not the base order, but rather, a derived one (see the discussion below). I propose that the order NP \succ AP \succ PP is derived via PP postposing, which is a general requirement on PPs in Arabic in general (Kremers, 2000, 2003; Bardeas, 2009).¹⁵ However, I leave open the possibility of whether such postposing takes place at PF, or involve extraposition to some higher functional projection.¹⁶

¹⁵Neither Kremers (2000, 2003) nor Bardeas (2009) explain in detail why PPs postpose in Arabic. Kremers (2000), however, hypothesizes that one might think of this in terms of processing. Kremers (2000:13) points out that PPs “contain noun phrases themselves. As such, they are best placed at the right periphery of the noun phrase, because if they were not, any adjectives or genitives that might follow, could be interpreted as belonging not to the head noun of the entire construction, but to a noun contained in the modifier”.

¹⁶One might wonder why extraposition or postposing does not target the possessor in

The view that the order in (281b) is the base order is further supported when we consider the behaviour of APs and PPs under ellipsis. Unlike *tabaʕ*, adjectives cannot be included in the ellipsis site. Consider the following examples, which involve ellipsis of *tabaʕ* and its complement and ellipsis of the adjective modifying the head noun respectively .

- (283) il-bait il-jdiid tabaʕ sam, akbar min
 the-house(m-s) the-new(m-s) prep(m-s) sam bigger than
 il-gadiim
 the-old(m-s)
 ‘Sam’s new house is bigger than the old one’

- (284) il-bait il-jdiid tabaʕ sam, akbar min tabaʕ
 the-house(m-s) the-new(m-s) prep(m-s) sam bigger than prep(m-s)
 fadi
 fadi
 ‘Sam’s new house is bigger than Fadi’s’

Whereas the example in (283) entails that the house belongs to Sam, the example in (284) does not entail that the house is new or has any indication about its quality.¹⁷¹⁸ Such facts can be captured if we maintain the claim made earlier that adjectives occupy a relatively higher position compared to *tabaʕ* and its complement. In cases like (283), *tabaʕ* and its complement are given, like the noun, and as such are elided. In such case, ellipsis bleeds postposing of the PP consisting of *tabaʕ* and its complement, and as such, the PP remains in the ellipsis site. In cases where the PP is non-redundant (not

the CS, as it does in the FS. I assume following Shlonsky (2004) that the head of the CS freezes its complement (i.e. the possessor) in its position. According to Shlonsky (2004), this freezing effect is a by-product of genitive case assignment by the the CS head to its complement.

¹⁷The same behaviour is observed with other types of adjectives (i.e. color, shape, size, etc).

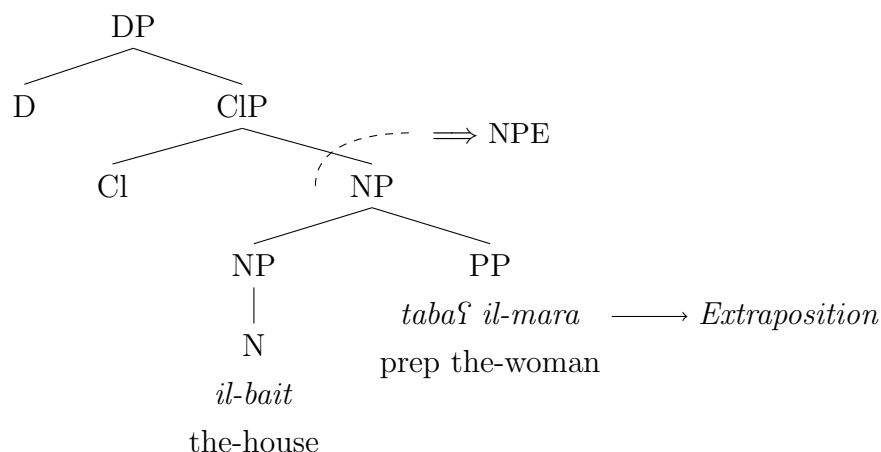
¹⁸Some speakers provided judgments where the example in (284) has another reading where the house is new, thus the adjective can be optionally included in the ellipsis site. Assuming that there is some dialectal variation at play, it could be argued that ellipsis in such cases targets a constituent larger than NP, namely ClP.

given), postposing (or extraposition) takes place as in non-ellipsis cases, and the PP appears as remnant of ellipsis.

With these assumptions in mind, I propose that the elliptical FS in (285a) has the configuration in (285b).¹⁹

- (285) a. il-bait tabaʕ il-zalamih akbar min
 the-house(m-s) prep(m-s) the-man(m-s) bigger than
 ~~il-beyt~~ [tabaʕ il-mara]
 the-house(m-s) prep(m-s) the-woman(f-s)
 ‘The house of the man is bigger than that of the woman’

b.



Recall that, like adjectives, *tabaʕ* and its complement occupy a position higher than the head noun in FS. Then it is predicted that adjectives modifying the head noun might also appear as remnants of ellipsis along *tabaʕ* and their complements. This prediction is born out in (286) where the adjectives *il-gadiim* (the old) appears as remnant of ellipsis.

- (286) il-bait il-jdiid tabaʕ il-zalamih akbar min
 the-house(m-s) the-new(m-s) prep(m-s) the-man(m-s) bigger than
 ~~il-beyt~~ il-gadiim [tabaʕ il-mara]
 the-house(m-s) the-old(m-s) prep(m-s) the-woman(f-s)
 ‘The house of the man is bigger than that of the woman’

¹⁹One can think of extraposition as being an instance of adjunction to ClP or some higher functional projection such as DP.

Note that in (286) the unmarked order AP \succ PP is still preserved when ellipsis takes place. If extraposition is taken to be adjunction to CIP or some higher functional projection, then the PP would always appear higher than the AP as in non-elliptical contexts (see (281a)). Switching the order as in (287) is marginally accepted, as in non-elliptical contexts (see (281b)).

- (287) ?il-bait il-jdiid tabaʕ il-zalmih akbar min
 the-house(m-s) the-new(m-s) prep(m-s) the-man(m-s) bigger than
 il-beyt [tabaʕ il-mara] il-gadiim
 the-house(m-s) prep(m-s) the-woman(f-s) the-old(m-s)
 ‘The house of the man is bigger than that of the woman’

If a pronominal clitic is used instead of a full DP, the order PP \succ AP becomes grammatical (288).

- (288) il-bait il-jdiid tabaʕ il-zalamih akbar min
 the-house(m-s) the-new(m-s) prep(m-s) the-man(m-s) bigger than
 il-beyt [tabaʕ-uh] il-gadiim
 the-house(m-s) prep(m-s)-his the-old(m-s)
 ‘The new house of the man is bigger than his old house’

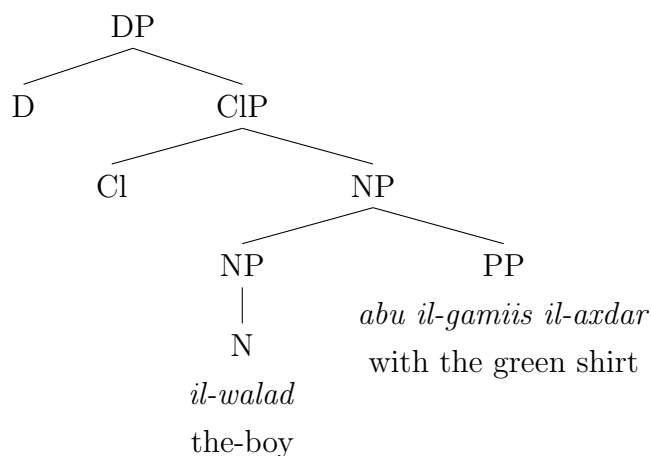
Finally, as briefly mentioned in chapter 3, the CS and FS show asymmetry with respect to pronominalization. To recap, PP adjuncts can modify anaphoric *one* in English, but internal PP arguments cannot (Lakoff, 1970; Jackendoff, 1977; Harley, 2005). If the *tabaʕ* phrase in the FS is indeed an adjunct, then it is predicted that it can modify pronominal *waḥad*. A prediction borne out in (289).

- (289) waḥad tabaʕ atfaal
 one(m-s) prep(m-s) kids(m-pl)
 ‘One (book) for kids’

Thus, the argument-adjunct asymmetry with respect to pronominalization is observed with the CS and the FS, which further supports the different constituent structure argued for above.

Turning now the *Um/Abu* constructions, I extend the analysis of the FS to these constructions. That is, both particles are adjoined to NP (also see [Mohammad, 1999](#)). Given this, the example in (266) repeated here as (290a) would have the structure in (290b).

- (290) a. *il-walad* *abu* *il-gamiis* *il-aswad* *aḏka*
 the-boy(m-s) prep(m-s) the-shirt(m-s) the-black(m-s) smarter
 min il-walad *abu* *il-gamiis* *il-axdar*
 than the-boy(m-s) prep(m-s) the-shirt(m-s) the-green(m-s)
 ‘The boy with the black shirt is smarter than the one with the
 green shirt’
- b.



As is the case with the FS, the structure in (290b) accounts for the fact that the *Um/Abu* particles can survive ellipsis.

In this section, I have proposed that *tabaʕ* and its complement DP merge as adjunct of the head noun. I have shown that we can account for both the ellipsis facts and the main properties of FSs without stipulating any movement operations. Moreover, I have shown that the analysis of the FS proposed here can be extended to accommodate the ellipsis facts observed with the *Um/Abu* constructions. In the next section, I discuss the Italian CS, showing that it behaves similarly to Semitic CSs under ellipsis.

4.4 The Italian Construct State

In this section, I show that Italian CS-like constructions show the same properties observed above with the JA CS, and so can be straightforwardly accommodated in this proposal. Before doing so, I first provide a brief overview of Italian CSs as discussed in Longobardi (1996).

Longobardi (1996) attempts to parametrize the occurrence of CSs in Semitic, Romance, and English. In Italian, and other Romance languages, the possessive relation is expressed via the prepositional genitive, and the possessor may never occur immediately following the possessum, as the ungrammaticality of (291) shows.

- (291) a. l'auto nuova di Rossi (Italian)
 the-car new of Rossi
 b. *auto Rossi nuova
 car Rossi new

Longobardi (1996), however, shows that there is a restricted class of common nouns that allow the possessor to immediately follow the possessum. Such class includes nouns like *casa* (house), and other kinship nouns, as in (292).

- (292) a. la casa nuova di Rossi (Italian)
 the home new of Rossi
 b. casa Rossi nuova
 home Rossi new

(Longobardi, 1996:12)

This class of nouns shares a number of properties with the Semitic CS.²⁰ Like CSs, no articles appear on the head noun. Also, the obligatory presence of the possessor corresponds to the genitive DP in Semitic CSs. Finally,

²⁰According to Longobardi (1996), there are three main differences that distinguish the Romance CS from its Semitic counterpart: (i) “only singular occurrences of nouns are allowed to head it; (ii) construct state heads, exactly like proper names, cannot be modified by a restrictive relative clause; (iii) heading a construct state entails rigidity of designation and transparency in intensional contexts” (Longobardi, 1996:19-20).

modifying adjectives follows both the possessor and the possessed, as seen in (292).²¹

Remarkably, Italian CSs behave similarly to their JA CSs under ellipsis. Namely, ellipsis with CSs in Italian is ungrammatical as seen in (293).²²

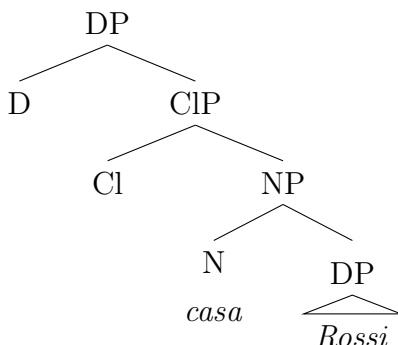
- (293) **Casa Rossi e' piu' grande che ~~easa~~ Verdi* (Italian)
 home Rossi is more big than home verdi
 'Rossi's house is bigger than Verdi's'

As is the case in JA, elliptical CSs in Italian must involve deletion of both the possessor and possessed, as seen in (294).

- (294) *Casa Rossi nuova e piu' grande che ~~easa~~ Rossi la vecchia*
 home Rossi new is more big than home Rossi the new
 'Rossi's new home is bigger than the old'
 (Italian)

Such resemblance to JA CSs seems to further support the construct-like status of *casa* nouns, as argued by Longobardi (1996). This also provides further evidence that possession can be expressed in a head-complement relationship. Therefore, I propose that the Italian CS in (292) has the structure in (295).

(295)



²¹Longobardi (1996) adopts Siloni's (1997) analysis of CSs in Hebrew. Siloni's (1997) analysis resembles that of Ritter (1991) illustrated above. Siloni, however, assumes that Agr_{gen} is an abstract genitive case assigner. The possessor raises to Spec-AgrGP where it gets genitive case, and N-to-D raising takes place to check the (in)definiteness feature of D.

²²Special thanks to Elisa Passoni for providing native speakers' judgements on Italian.

The fact that both the possessor and possessum in Italian CSs must be elided seem to suggest that, like JA, the head noun *casa* takes the possessor *Rossi* as its complement, as in (295). Moreover, the appearance of the adjective associated with the head noun as a remnant of ellipsis also shows that it must be in a position higher than both the head noun and its complement.

The above analysis raises an interesting question which is, why CSs in Italian are restricted to nouns like *casa*? I assume that this follows from the way in which the R relation is negotiated inside those DPs. This issue is addressed in the next section.

4.5 Thematic Relations in the Construct and Free State

A non-uniform analysis of CSs and FSs not only accounts for the ellipsis facts above, but also has an additional advantage: it can account for an asymmetry in the range of thematic relations available for those constructions.

Despite the fact that CSs and FSs are used interchangeably within the context of possession, this alternation is not available for some thematic relations (Mohammad, 1999; Soltan, 2007; Bardeas, 2009). This difference can be accounted for if we consider the different ways in which the R relation is negotiated inside CS and FS DPs. I will argue that the R relation in the CS comes from the head of the CS. As for the FS, I show that the R relation is mediated by the preposition *tabaʕ*. I focus mainly on five thematic relations: part-whole (inanimate), part-whole (animate), kinship, possession, and modification (Mohammad, 1999; Boneh and Sichel 2010, among others).

The CS can convey all the relations mentioned above, as the following examples show:²³

- (296) ʕajal il-baas^f
 wheel(m-s) the-bus(m-s)
 ‘The bus’s wheel’

²³It is worth noting that the behaviour of CSs under ellipsis with the other thematic relations is the same as in the possessive relation. In other words, both the head noun and its complement must be elided.

(*Part-whole-inanimate*)

- (297) raas il-walad
head(m-s) the-boy(m-s)
‘The boy’s head’

(*Part-whole-animate*)

- (298) uxt Sam
sister(f-s) sam
‘Sam’s sister’

(*Kinship*)

- (299) bait il-mara
house(m-s) the-woman(f-s)
‘The woman’s house’

(*Possession*)

- (300) jambo atfaal
shampoo(m-s) kids(m-pl)
‘Kids’ shampoo’

(*Modification*)

Only three out of the five relations can be conveyed using the FS (see also [Mohammad, 1999](#); [Bardeas, 2009](#)), as the following examples show:

- (301) il-ʕajal tabaʕ il-baas^ʕ
the-wheel(m-s) prep(m-s) the-bus(m-s)
‘The wheel of the bus’

(*Part-whole-animate*)

- (302) *il-raas tabaʕ il-walad
 the-head(m-s) prep(m-s) the-boy(m-s)
 ‘The head of the boy’
(*Part-whole-animate*)
- (303) *il-uxt tabʕit Sam
 the-sister(f-s) prep(f-s) sam
 ‘The sister of Sam’
(*Kinship*)
- (304) il-bait tabaʕ il-mara
 the-house(m-s) prep(m-s) the-woman(f-s)
 ‘The house of the woman’
(*Possession*)
- (305) ʃambo tabaʕ atfaal
 shampoo(m-s) prep(m-s) kids(m-pl)
 ‘Kid’s shampoo’
(*Modification*)

We can summarize the facts above as in the following table:

Table 4.1: The range of thematic relations with CSs and FSs

Relation	Construct State	Free State
Part-whole (Animate)	✓	✗
Part-whole (Inanimate)	✓	✓
Kinship	✓	✗
Possession	✓	✓
Modification	✓	✓

The fact that the full range of thematic relations is available for the CS is not surprising given that the genitive phrase is in complement position of the head noun. As Shlonsky (2004:1506) explains, being in a head-complement configuration, the genitive phrase can be freely interpreted as theme, agent,

or possessor. As such, Shlonsky assumes that the restriction on having the possessor/agent in complement position of the head noun Grimshaw (1990) is “obliterated” in the CS.

As for the FS, I argue that the restrictions observed above relates to both the relatively higher position of *tabaʕ* and its complement, and for some properties of *tabaʕ* itself. One piece of evidence in support of this comes from the range of thematic relations available for the FS in Hebrew. In spite of the similar behaviour of FSs in JA and Hebrew under ellipsis, there are some differences between the two constructions as far as the range of thematic relations is concerned. Unlike JA, kinship and part-whole (animate) relations can be conveyed using the FS in Hebrew, as seen in (306) and (307).

- (306) ha-raʕ ʕel ha-yeled
 the-head(m-s) prep the-boy(m-s)
 ‘The head of the boy’
(*Part-whole-animate*)

- (307) ha-axot ʕel Sam
 the-sister(f-s) prep sam
 ‘The sister of Sam’
(*Kinship*)

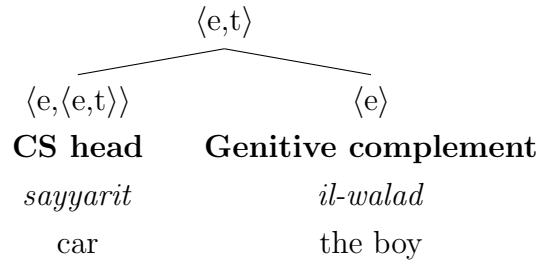
Given the similar behaviour of FSs in JA and Hebrew under ellipsis, I propose that the difference between the two observed above is not structural, but rather relates to the semantic properties of *ʕel* and *tabaʕ*. Unlike *ʕel*, which is a dummy preposition without descriptive meaning, *tabaʕ* is derived from the noun *tabiʕ* (follower). As such, *tabaʕ* imposes semantic restrictions on the noun that it modifies.

A remaining question is how the R relation, with its five variants, is negotiated between the head noun and the genitive DP in both the CS and the FS. I propose that in the CS, the R-relation comes from the noun (Barker, 1995, 2011; Vikner and Jensen, 2002; Heller, 2002). I follow Ouwayda (2012) who proposes that the CS is a semantic predicate of type $\langle e, t \rangle$ which consists of a relational head noun of type $\langle e, \langle e, t \rangle \rangle$, and an individual denoting genitive DP

of type $\langle e \rangle$. As [Ouwayda](#) explains, the lexicon would contain two entries for the same noun. The bound form of type $\langle e, \langle e, t \rangle \rangle$ found in the CS, and a free form of type $\langle e, t \rangle$ found in non-CS DPs. The semantic composition of both elements in the CS in (308) is seen in (308b).²⁴

(308) *Semantic composition of the CS*

- a. sayyarit il-walad
 car(f-s) the-boy(m-s)
 ‘The boy’s car’
 b.



(Modified from [Ouwayda 2012 :87](#))

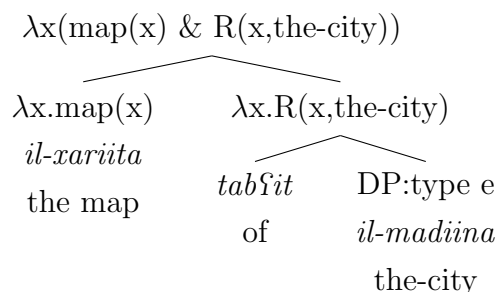
This way we might capture the fact that the CS is quite productive in JA and Hebrew. The grammar of those languages allows nouns to have two forms: a relational form found in CSs and a non relational form found elsewhere. This part of the grammar manifests itself in other languages like Italian, though with very restricted set of nouns. Thus we might account for the non-productive usage of the CS in Italian observed in section 4.4. Only certain nouns in Italian have the property of having two forms in the lexicon.

²⁴[Ouwayda \(2012\)](#) offers two possible explanations to account for the relational status of the CS head. First, as I assume here, the head of the CS, which appears in the bound form, is a relational noun of type $\langle e, \langle e, t \rangle \rangle$. Second, the CS head is “syntactically modified, and the bound form of the head denotes not only the noun, but the noun of type $\langle e, t \rangle$ plus a semantic equivalent of “of” (perhaps the bound function) of type $\langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle$, resulting in a relational noun denotation” ([Ouwayda 2012:86](#)). [Ouwayda](#) does not commit herself to any of the two explanations, and assumes that both are possible.

As for the FS, I assume following Heller (2002) for Hebrew that in JA the R relation is negotiated via *tabaʕ* which acts as a modifier of the head noun. Consider the following examples modified from Heller (2002:129).²⁵

(309) ***Semantic composition of the FS***

- a. il-xariita tabʕit il-madiina
 the-map(f-s) prep(f-s) the-city(f-s)
 ‘The map of the city’
- b.



Heller (2002) assumes that in (309), the *fel* (*tabaʕ*) phrase is a modifier which denotes a set of individuals that “stand in some unspecified relation R” to the individual denoted by the DP in its complement position. The set is then intersected with the set denoted by the head of the FS. The result of this composition is a “set of (map) individuals that are related to (the city)” (Heller 2002:129).

Finally, one difference between the FS and the *Um/Abu* constructions concerns the availability of inalienable possession. As first noted by Mohammad (1999), the difference between the FS on the one hand and the *Um/Abu* constructions on the other hand is that the former is only compatible with alienable possession (see (302)- (303) above), whereas the latter is compatible with both alienable and inalienable possession (310).²⁶

²⁵Heller (2002) does not discuss the FS in Arabic. I translate her original Hebrew example to JA.

²⁶Mohammad (1999) argues, as I do here, that the FS and *Um/Abu* constructions have the same syntactic structure. Mohammad does not explain why only the *Um/Abu* constructions are compatible with inalienable possession.

- (310) a. il-walad abu raas kbiir
 the-boy(m-s) prep(m-s) head(m-s) big(m-s)
 ‘The boy with the big head’
- b. il-sayyaara um ʕjal kbaar
 the-car(f-s) prep(f-s) tire(f-pl) big(f-pl)
 ‘The car with the big tires’

I assumed above that the *tabaʕ* phrase is incompatible with inalienable possession because of its semantic properties. That is, *tabaʕ* is derived from the noun *tabaʕ* (follower), thus it imposes semantic restrictions on the noun that it can modify. By the same token, I assume that the *Um/Abu* particles, which literally mean mother of/father of, show similar semantic restrictions. In other words, the two particles have the semantic import which enables them to combine with nouns that denote alienable (e.g. *log*, *tire* etc) and inalienable parts (e.g. *head*, *leg* etc). Clearly, the behaviour of the FS and *Um/Abu* under ellipsis suggests giving them a uniform structural analysis. Alternatively, one might assume that the *Um/Abu* phrases occupy a structural position lower than the FS. However, I leave it to future research to determine the exact merge position of both particles.

Summing up, I have shown that the CS and FS differ with respect to the range of thematic relations available for the two construction. I have shown that such asymmetry relates to both the different syntax of those constructions, and for some additional semantic properties of the preposition used in the FS. In the next section, I review some of the previous analyses of the CS and FS showing that they fail to capture the ellipsis facts discussed above.

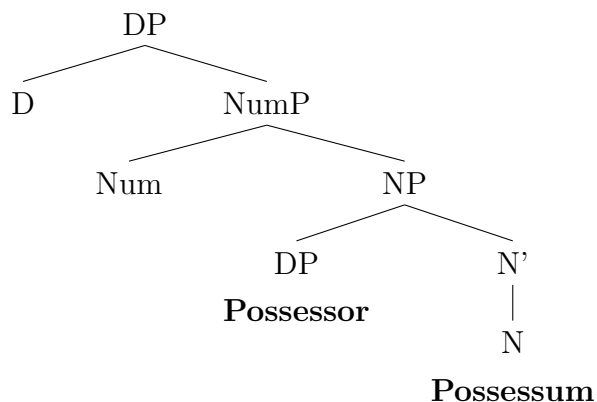
4.6 Previous Accounts of the CS and FS

In this section, I review some of the previous accounts of adnominal possessives in Arabic. I compare these accounts to the analysis argued for here, showing how my account can best capture the ellipsis facts presented above.

4.6.1 Uniform analysis

As mentioned above, both the CS and FS are used to convey similar thematic roles despite the fact that there are superficial differences between the two constructions. An influential approach to these constructions has taken them to involve identical base-generated structures (e.g. Ritter, 1991; Borer, 1999). Such an analysis takes the thematic position of possessors to be identical, and assumes that the syntactic differences between the two constructions arise as a result of movement operations. In what follows, I will use Ritter (1991) as an example of this type of analysis. Ritter (1991) offers a uniform N-raising analysis of both CSs and FSs (also see Borer, 1996, 1999). Under her system, the two functional categories D and Num are present in both CSs and FSs. Moreover, the possessor and the possessum are generated in the same structural position in both CSs and FSs.²⁷ The possessum occupies the N position, and the possessor occupies the Spec-NP position, as seen in (311).

(311)

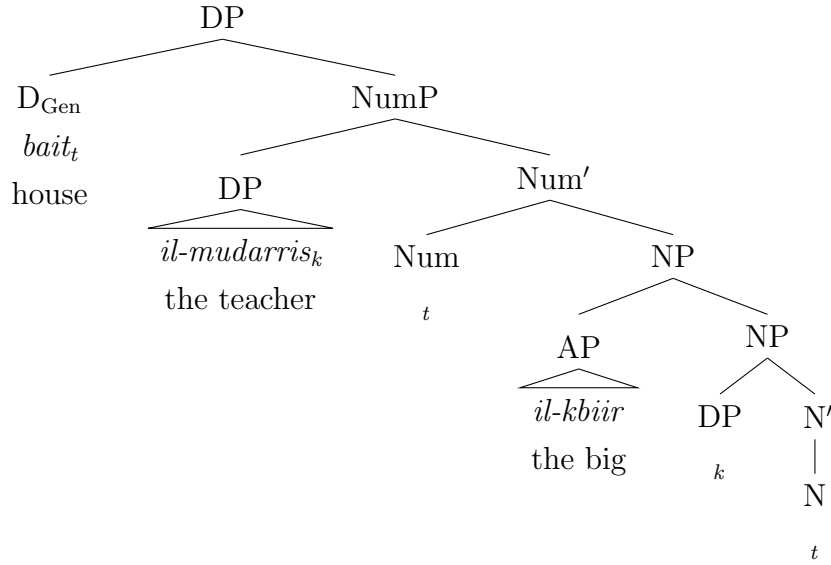


For Ritter (1991), the two constructions differ in two respects. First, the two constructions differ in the target of N-raising. In CSs, N moves to Num and

²⁷Most previous analyses of the Arabic CS assume that the possessor originates in a position higher than the possessum. In this sense, the possessor might originate in a designated functional projection (e.g. *np* for Fassi-Fehri (1999), or in Spec-NP as in Ritter (1991)). The correct surface order (i.e. possessum \succ possessor) is achieved via movement of the head noun to D.

then to D.²⁸ In FSs, N moves only to Num since the definite article occupies the D position. According to Ritter, this explains the appearance of the definite article on the head noun in FSs but not in CSs. Second, the CS and FS differ in whether the possessor raises from its merge position or not. Ritter (1991) proposes that D is a genitive case assigner in CSs, and that the possessor raises to Spec-Num where it is assigned genitive case by D. For Ritter, the example in (245) has the configuration in (312).

(312)

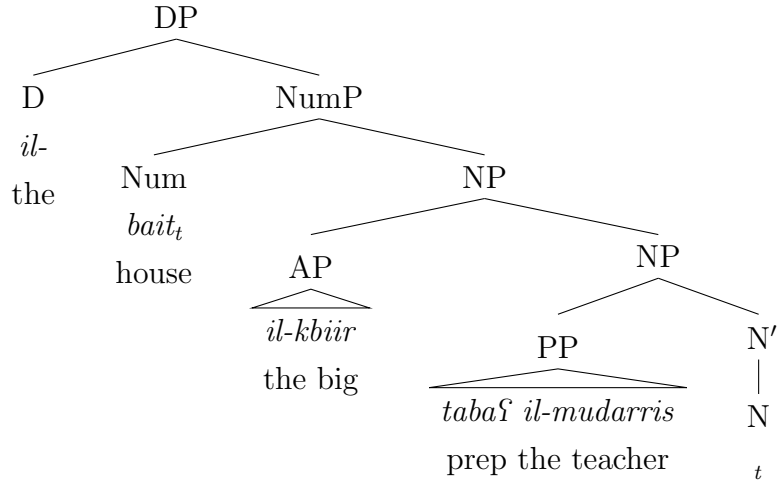


(Modified from Al Khatib 2009, 3)

In FSs, on the other hand, the preposition is the genitive case assigner such that movement of the possessor to Spec-Num is no longer required. As for adjectives, Ritter assumes that they are left-adjoined to NP. Under Ritter's system, the FS in (249) have the configurations in (313).

(313)

²⁸Ritter (1991) assumes the head of the CS is not inherently specified for definiteness, meaning that it must get it from another element in the structure; the genitive phrase in Spec-NP. For Ritter, N-to-D movement takes place in order to convey the (in)definiteness specification to the head of DP.



(Modified from Al Khatib, 2009:4)

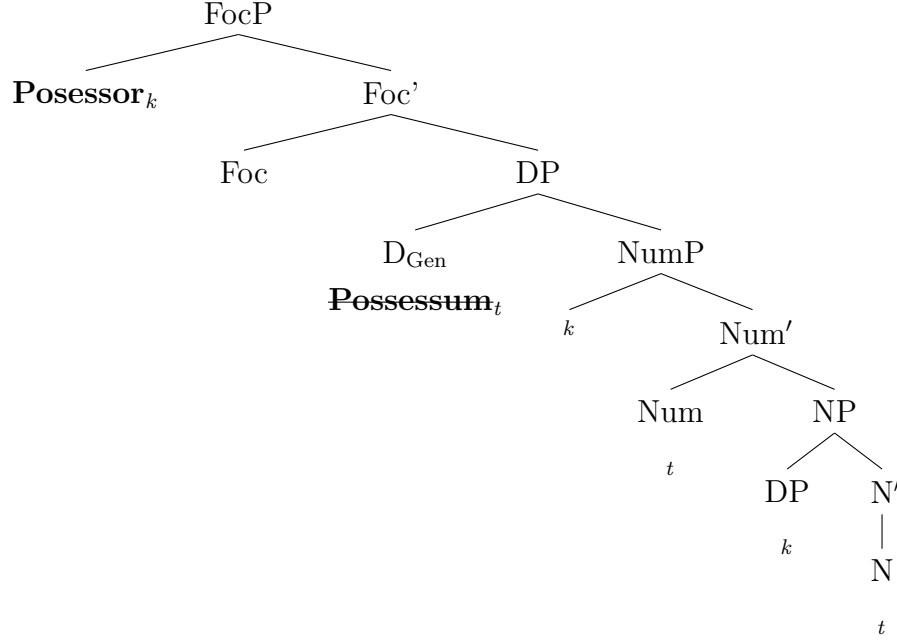
In this analysis, movement of N and of the CS possessor allows for a uniform merge position for possessors: Spec-NP. In this way, the question of how the same thematic role comes to be associated with different constructions is answered since the possessor merges in the same position in both constructions.

Now, let us think about how we might rescue the uniform analysis of Ritter (1991). In doing so, two scenarios come to mind: (i) ellipsis takes place after N-raising, and (ii) ellipsis precedes N-raising. Now, in scenario (i) we can assume that the derivation of both the CS and the FS proceeds as in non-elliptical contexts ((312)-(313)), and that after the structure is sent to PF, deletion targets the redundant element(s), which is in this case the possessum. Also, the possessor and other modifying adjectives, being non-redundant, would not be subject to deletion, and would undergo focus movement to a position above or below D (e.g. Spec-FocP) (see Corver and Van Koppen, 2009; Ntelitheos, 2004) (314).²⁹

²⁹Note that in chapter 3, I argued against contrast as a necessary condition for nominal ellipsis.

(314) *Movement followed by deletion*

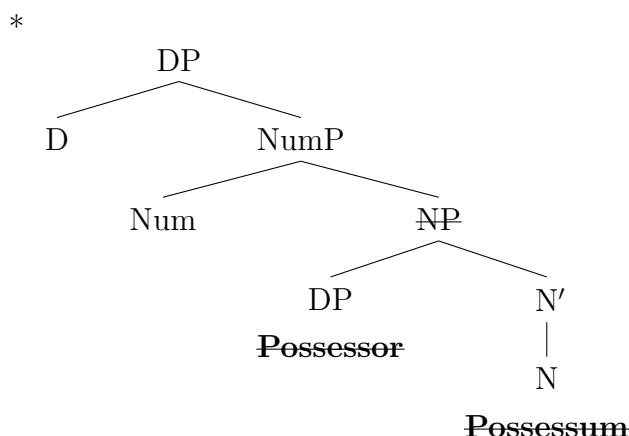
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While this scenario would account for the presence of adjectives modifying the possessum as remnants of ellipsis, it does not explain why the possessor, being in Spec-NP in both constructions, cannot undergo such focus movement in the CS given that this is possible in the FS.

As an alternative, we might consider a scenario where ellipsis bleeds head movement be it in the narrow syntax or at PF (Lasnik, 1999; van Craenenbroeck and Lipták, 2008). In particular, we can assume that ellipsis targets the complement of Num (CL in the present analysis), such that raising of both the possessum and the possessor is blocked due to ellipsis, thus the CS ellipsis facts presented above is easily accounted for (315).

(315) *Ellipsis bleeds movement*



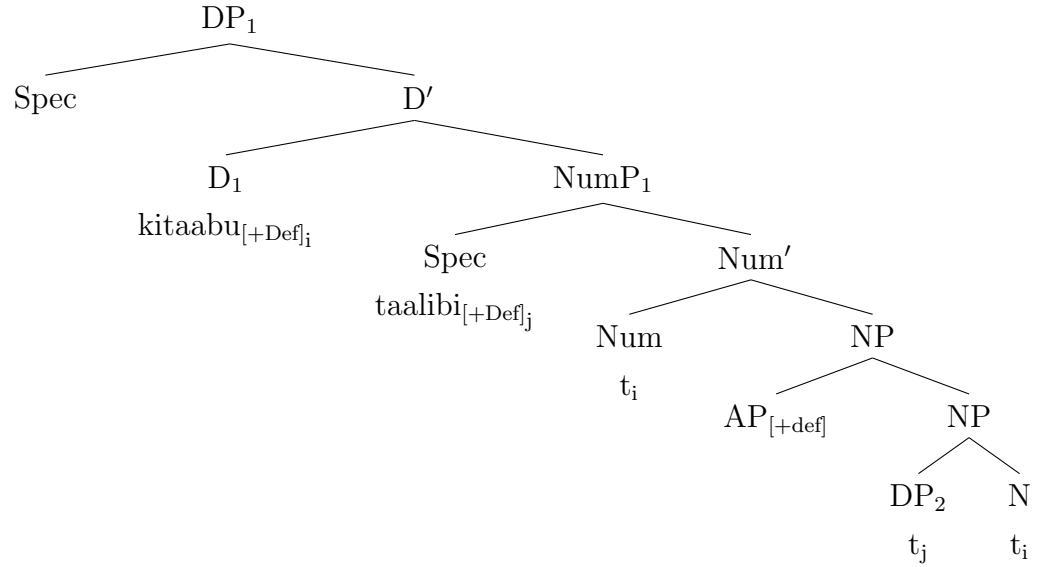
As stated above, the possessor in both the CS and the FS is taken to be merged in the same position under the uniform analysis. Given this, we predict that the possessor in the FS must be obligatorily elided along the possessum, as in the CS. However, as explained above, possessors in the FS can survive ellipsis and appear as remnants of ellipsis, which is not true for the CS. Therefore, I argue that the non-uniform analysis of the CS and FS argue for above overrules Ritter's (1991) analysis since it can capture the asymmetry between the two constructions under ellipsis.

4.6.2 Morphological merger

Following Borer (1996), Benmamoun (2000) argues that the head noun and the genitive phrase in the CS form one single prosodic word (unit). Benmamoun adopts the structure of the CS proposed by Ritter (1991), and argues that after head movement takes place, both elements of the CS undergo morphological merger post-syntactically (316).³⁰

(316)

³⁰Unlike Borer (1996) who argues that merger of both elements of the CS takes place in the narrow syntax, Benmamoun (2000) assumes that such merger is done post-syntactically.



(Benmamoun, 2000:154)

Benmamoun (2000) assumes that morphological merger explains the strict adjacency between the two elements of the CS as well as the absence of the definite article on the possessum. According to Benmamoun (2000:140), “the merger of the members of the CS allows the last member to spell-out the (in)definiteness feature of the other members, making spellout by a morpheme redundant”.

Taking the ellipsis facts presented above, the fact that both elements of the CS must be targeted by ellipsis seems to further support the status of the CS as one morphologically complex word. That is, since the CS is one complex word, ellipsis would target the entire word, and not simply its subparts. However, a closer look at the structure of the CS reveals that the strict adjacency between the two elements of the CS does not seem to hold. In JA, demonstratives and numerals can modify the possessor, as seen in (317a) and (317b).³¹

³¹Al-Nadiri (2005) reports that the strict adjacency between the two elements of the CS does hold in MSA, as is standardly assumed. The example in (i) shows that in some contexts, such as swearing by God, the strict adjacency between the two elements of the CS can be interrupted.

- (i) haaða yulaam-u wallahi Zaid-in
 this(m-s) boy(m-s)-nom by-Allah Zaid-(gen)
 ‘By Allah, this is Zaid’s boy’

- (317) a. [DP bayt [DP hada il-zalamih]]
 house(m-s) this(m-s) the-man(m-s)
 ‘The house of this man’
- b. [DP bayt [DP il-talaat zlaam]]
 house(m-s) the-three.MPL the-man.MPL
 ‘The house of the three men’

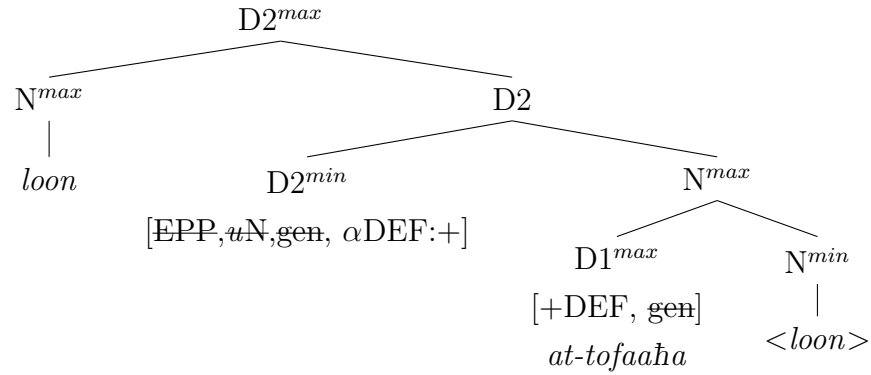
Given this, it seems clear that an explanation of the ellipsis facts in the CS in terms of its morphological make-up is hardly tenable.

4.6.3 Head-to-Spec movement

Bardeas (2009) following Matushansky (2006), adopts a Head-to-Spec movement approach to Arabic DPs. Unlike the previous head movement analyses, she proposes that movement of N targets the root of the structure D, causing it to project once more. In this case, the landing site of N is Spec-DP. According to Bardeas, D bears both an [EPP] feature and a c-selectional feature. The [EPP] feature is checked via movement of the head N, and the c-selectional feature selects the category which checks the [EPP] feature. Under this analysis, the structure of the CS would be as in (318)

- (318) a. loon at-tofaaħa
 colour(m-s) the-apple(f-s)
 ‘The colour of the apple’
- b.

(Adapted from Assiri 2011:261)



(Modified from Bardeas 2009 :142)

Bardeas (2009) notes that Head-to-Spec movement results in an ungrammatical $N \succ A \succ D$ order. To resolve this problem, she proposes a morphological merger operation (M-merger) that takes place after Spell-Out in all types of Arabic DP. This way the correct word order in Arabic is achieved. According to Bardeas, the motivation behind M-merger is due to the different directionality of the definite and indefinite markers in MSA. She then proposes that there are three types of Ds in Arabic as in (319).

(319)

1. A null D with the set of features [EPP, *uN*, gen, α DEF:]. This is the D projected in Construct States.
2. An overt D with the set of features [EPP, *uN*, +DEF]. This D is projected in definite simple DPs and Free Genitives and is the prefix *al-* or one of its variants in Arabic.
3. A D with the set of features [EPP, *uN*, -DEF]. This D is projected in indefinite simple DPs and Free Genitives. This D is null in spoken Arabic but is overt in Modern Standard Arabic (*-n*, a suffix).

(Bardeas 2009 :142)

According to the above taxonomy, the DEF feature in both definite and indefinite DPs is set either as $[\pm \text{Def}]$. In the case of CSs, D bears an unvalued

[α DEF] feature, and gets valued via an Agree relation with D of the genitive phrase. Bardeas (2009) argues that the case of the genitive phrase is assigned by the CS's D which has a genitive feature [GEN] that is checked against the unvalued genitive case of the genitive phrase via an Agree relation. Finally, all Ds have a c-selectional feature [u N] which entails that D always select NP.

I concur with Bardeas (2009) in arguing that the genitive phrase is generated as complement of the head noun. However, she claims that M-merger must takes place in all types of DPs in Arabic. This assumption is not accurate enough if we consider examples like (320) in which the definite article attaches to the numeral *sitt* (six) and not to the head noun *glaam* (pens) .

- (320) il-sitt glaam
 the-six(m-s) pen(m-pl)
 ‘The six pens’

This shows that if the [EPP] feature exists as proposed by Bardeas (2009), it is not always checked via a nominal. Moreover, I have shown that movement of the head noun is not required to derive the correct word order if adjectives are taken to be adjunct of some functional projection above NP.

Summing up, it has been shown that the previous accounts of the CS cannot account for the ellipsis facts in JA. The analysis argued for above can capture the ellipsis facts straightforwardly.

4.7 Conclusion

In this chapter, I discussed the syntax of adnominal possessives in JA. Based on empirical observations regarding their behaviour under ellipsis, I showed that the CS and FS have two distinct syntax structures and that a uniform structural analysis encounters fundamental difficulties manifested by the possibility of stranding the possessor in the FS but not in the CS, when ellipsis takes place. I argued in favour of a non-uniform structural analysis of the two constructions. For the CS, I argued that the head of the CS is lexically converted into a relational noun which takes the genitive phrase as its complement such that when ellipsis takes place both elements must elide given the assump-

tion that ellipsis targets the complement of Cl: NP. I further supported my analysis by showing that Italian CSs behave similarly to their Semitic counterparts under ellipsis. As for the FS, I argued that the preposition and its complement DP (the possessor) merge as an adjunct of the head noun such that when ellipsis takes place the possessor might be stranded depending on whether the PP containing the possessor DP undergoes extraposition to a position outside the NP domain. I extended my analysis of the FS to the *Um/Abu* constructions which exhibit similar properties to the FS. Finally, I showed that within a non-uniform analysis we can capture the different range of thematic relations available for both constructions. The generalization emerges that possession can be encoded in a variety of structural configurations, including a head-complement relation.

Chapter 5

Summary and Conclusion

The central goal of this thesis was to address the question of what licenses ellipsis in the DP. It was shown that Nominal Ellipsis (NE) takes place at two levels in the DP: the NP and CIP level. It was shown that notions like strong agreement, focus, and other semantic conditions are not relevant to nominal ellipsis in JA. The arguments presented in this thesis add to the debate regarding the mechanism involved in NE. In particular, the findings of this thesis support the ellipsis and stranded affixes approach of [Saab and Lipták \(2016\)](#). I justified my analysis by analyzing NE in three types of DPs: (i) simple DPs; (ii) numeral-containing DPs; and (iii) possessive DPs. It was also shown that the ellipsis data presented here have implications for the structure of numeral-containing DPs and also for possessive DPs.

In chapter 2 I discussed numeral system in JA. I showed that cardinals do not occupy the same structural position in the DP. I argued for a structural division between numerals 3-10 and TD-numerals. It was shown that the mixed agreement patterns observed with TD-numerals are also observed with numerals 3-10 in JA. The JA data presented in this thesis further support the analysis of [Ouwayda \(2014\)](#) for numerals in Lebanese Arabic (LA). The chapter also discussed the Plural of the Singulative (PS) puzzle. It was shown that, like LA, the PS behaves differently from other plurals in JA. Unlike LA, the PS is licensed with indefinites in JA only by a plural marked adjective.

The discussion of NE was undertaken in chapter 3. I showed that NE is a productive phenomenon in JA. I showed that both ellipsis and pronominaliza-

tion are attested in JA, and that the two phenomena can be given a uniform analysis building on [Saab and Lipták's \(2016\)](#) approach. I also presented and refuted a number of alternative analyses in the literature, and showed that they fail to capture the full set of facts in JA.

I then moved on to discuss possessive DPs in JA and their behaviour under ellipsis in chapter 4. I showed that the Construct State (CS) and the Free State (FS) behave differently under ellipsis. In particular, it is possible to strand the possessor in the FS but not in the CS. I argued that such conflicting behaviour under ellipsis can be best captured under a non-uniform structural analysis of the two constructions. I argued that the CS has a head-complement structure, where the head of the CS takes the possessor DP as its complement. I also analyzed the Italian CS showing that it behaves similarly to Semitic CSs under ellipsis. As for the FS, I argued that the possibility of stranding the possessor in this construction follows from the fact that, unlike the CS, the possessor in the FS is an adjunct of the head noun. I also discussed a third type of adnominal possessives known as the *Um/Abu* construction, which has properties similar to the FS, and showed that it has a similar structure to the FS. My argument is based on the fact that the *Um/Abu* construction behaves similarly to the FS under ellipsis.

The study of ellipsis in the nominal domain is not a new topic of research, but the arguments and analysis presented in this thesis have contributed to the overall debate on this topic. I hope, therefore, that it has enhanced our understanding of the mechanisms involved in NE. Time limitations prevented me investigating NE inside DPs occurring in predicative positions. Therefore, I leave this issue for future research.

Appendices

The Morphosyntax of Ordinals in Jordanian Arabic

Ordinal numerals occur in pre and postnominal positions, as seen in (321).

- The behaviour of postnominal ordinals is quite straightforward. Postnominal ordinals behave like adjectives exhibiting agreement with the noun in number, gender, and definiteness, as the following examples show:

- a. kitaab ʔawal Singular
book(m-s) first(m-s)
'A first book'

- b. sayyara ?ula Singular
 car(f-s) first(f-s)
 ‘A first car’
- c. kutub / sayyaraat ?awalaniat Plural
 book(m-pl) / car(f-pl) first(f-pl)
 ‘First books/cars’

(323) ***Definite NP***

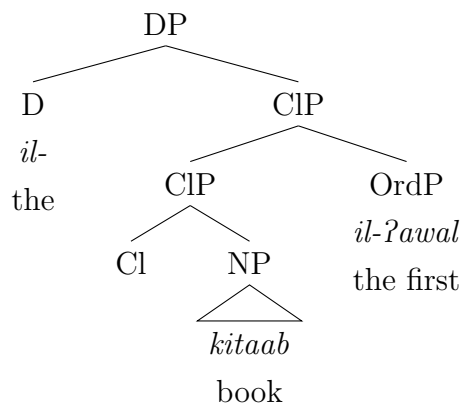
- a. il-kitaab il-?awal Singular
 the-book(m-s) the-first(m-s)
 ‘The first book’
- b. il-sayyara il-?ula Singular
 the-car(f-s) the-first(f-s)
 ‘The first car’
- c. il-kutub / il-sayyaraat il-?awalaniat Plural
 the-book(m-pl) / the-car(f-pl) il-first(f-pl)
 ‘The first books/cars’

Given this, I argue that postnominal ordinals are adjectives that adjoin to some higher functional projection above the noun (e.g. CLP). One piece of evidence that postnominal ordinals are adjectival comes from the flexibility in ordering between adnominal adjectives and ordinals, as seen in (324).

- (324) a. il-kitaab il-?awal il-jdiid
 the-book(m-s) the-first(m-s) the-new(m-s)
 ‘The first new book’
- b. il-kitaab il-jdiid il-?awal
 the-book(m-s) the-new(m-s) the-first(m-s)
 ‘The first new book’

The structure of the sentence in (323a) is given in (325).

(325)



Prenominal ordinals can be followed by both definite and indefinite nouns. Consider the following examples which show prenominal ordinals followed by an indefinite NP:

- (326) a. ʔawal walad Singular
 first(m-s) boy(m-s)
 'First boy'
- b. ʔawal majmuuʕa Singular
 first(m-s) group(m-s)
 'First group'

The above examples show that prenominal ordinals can be followed by indefinite human and non-human nouns. The example in (327) shows that prenominal ordinals cannot be followed by an indefinite plural noun.

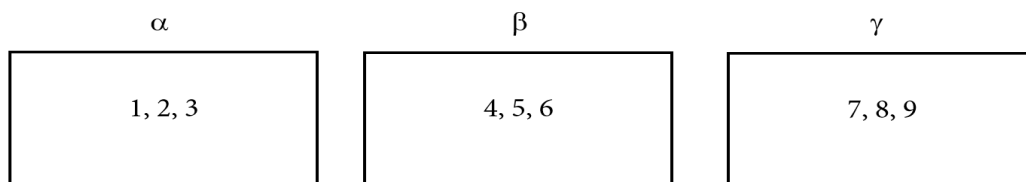
- (327) *ʔawal wlaad
 first(m-s) boy(m-pl)
 'First boys'

Now consider the following examples which show prenominal ordinals followed by a definite noun:

- (328) a. *ʔawal il-walad Singular
 first(m-s) the-boy(m-s)
 ‘First boy’
- b. ʔawal il-majmuuʔa Singular
 first(m-s) the-group(f-s)
 ‘First member of the group’
- c. ʔawal il-wlaad Plural
 first(m-s) the-boys(m-pl)
 ‘First boy of a group of boys’

Prenominal ordinals differ from their postnominal counterparts in several respects. First, prenominal ordinals do not agree with the following noun at all. Second, prenominal ordinals cannot bear the definite article. The definite article only appears on the noun. Moreover, with definite NPs, only group denoting nouns can follow prenominal ordinals (328b), whereas human nouns cannot, as the ungrammaticality of (328a) shows. Finally, there are semantic differences between definite and indefinite NPs following an ordinal, as the English glosses show. Specifically, when an ordinal is followed by a definite NP, as in (328b), the reading is one where the ordinal refers to the first member of the set denoting by the NP, which is group in (328b). By contrast, when the NP is indefinite, as in (326b), the reading available is one where the ordinal refers to the group as a whole. In order to explain the difference in meaning between the two sentences in (326b) and (328b), let us first assume that there are three different groups: α , β , and γ . Each group consists of three natural numbers, as seen (329)

(329)



In the context of (329), the sentence in (326b) would refer to group α as a whole. If the ordinal *ʔawal* (first) in (326b) is replaced by *tani* (second), then the sentence would refer to group β as a whole. By contrast, the sentence in (328b), where the noun is definite, refers to a specific member of a given group. If the speaker is referring to group α , then the sentence in (328b) would refer to the first member of the group, which is 1 in this case.

Summing up, the behaviour of prenominal ordinals is quite complex compared to their postnominal ordinals. In what follows, I offer my analysis of prenominal ordinals. I show that prenominal ordinals are quantifiers which come in two types depending on the definiteness of the following noun. This hypothesis is based on the fact that prenominal ordinals exhibit all properties associated with the quantifier *kull* in its two varieties. In what follows, I will first start by discussing the properties of the quantifier *kull* in Arabic, then I present my analysis of prenominal ordinals.

The quantifier *kull* can mean either all or each. When *kull* means all, it selects either for definite plural (330a), or definite mass nouns (330b). *Kull* (all) cannot be followed by a definite singular human noun (330c).

- (330) a. *kull* *il-wlaad*
 all(m-s) the-boy(m-pl)
 ‘All the boys’
- b. *kull* *il-tuffaḥ*
 all(m-s) the-apple
 ‘All the apples’
- c. **kull* *il-walad*
 all(m-s) the-boy(m-s)
 ‘All the boy’

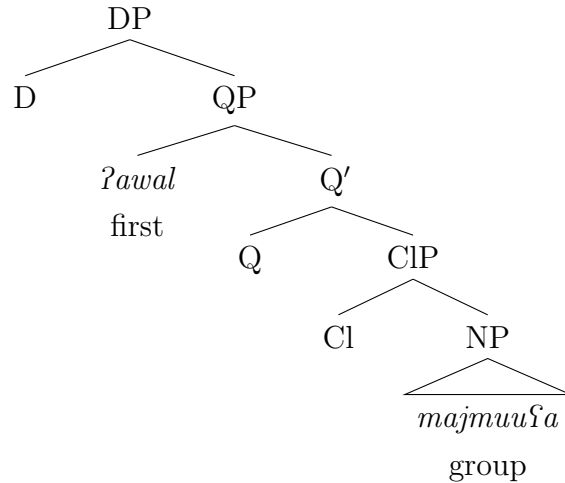
When *kull* means *each*, it only selects for indefinite singular nouns (331). *Kull* (each) cannot be followed by an indefinite plural noun (332)

- (331) *kull* *walad*
 each(m-s) boy(m-s)
 ‘Each boy’

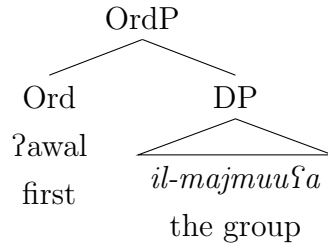
- (332) **kull kutub*
 each books(m-pl)
 ‘Each books’

The asymmetry between both *kulls* with respect to definiteness of the following noun is reminiscent of the behaviour of prenominal ordinals. As mentioned above, when the following noun is indefinite, prenominal ordinals can only be followed singular nouns (326). Moreover, when the noun is definite both prenominal ordinals (328a) and *kull* (all) (330c) cannot be followed by human nouns. Given this, I argue that prenominal ordinals are quantifiers that come in two guises: (i) prenominal ordinals can be merged DP-internally and in such a case, they merge in Spec-QP, and behave like distributive *kull* (each); and (ii) prenominal ordinals can be merged above DP, like *kull* (all), taking the entire DP as their complement. The relevant structures are given in (333) and (334).

- (333) a. *?awal majmuuʔa*
 first group(f-s)
 ‘First group’
 b.



- (334) a. ʔawal il-majmuuʕa
 first the-group(f-s)
 ‘The First member of the group (Intended reading)’
 b.



The structure in (333) shows ordinals when they behave like distributive *kull* (each). On the other hand, the structure in (334), which is based on Shlonsky’s (1991) account of universal *kull* all, exemplifies prenominal ordinals when followed by a definite noun. In what follows, I provide several arguments to support the two structures above.

One piece of evidence that ordinals behave like *kull* (all) when followed by a definite noun comes from the fact that, like *kull* (all) (335), DPs following prenominal ordinals can be realized as pronominal clitics, as seen in (336).

- (335) ija xams tullab ʕal-saf, u
 came(3-m-s) five(m-s) student(m-pl) to-the-class(m-s), and
 kull-**hum** kanu taʕbaniin
 all-them(m-pl) were(m-pl) tired(m-pl)
 ‘Five students came to class, and all of them were tired’

- (336) ija xams tullab ʕal-saf, u
 came(3-m-s) five(m-s) student(m-pl) to-the-class(m-s), and
 taalit-**hum** kaan taʕban
 third-them(m-pl) was(m-s) tired(m-s)
 ‘Five students came to class, and the third of them was tired’

Another property that is shared between universal *kull* (all) and pronominal ordinals followed by a definite noun is quantifier flip. In a nutshell, the quantifier *kull* (all) can appear before the associated noun, and in such a case, a pronominal clitic must obligatorily appear on the quantifier and refer back to the associated noun, as seen in (337).¹

- (337) a. *kull il-tullab iju ʔal-saf*
all the-student(m-pl) came(3-m-pl) to-the-class(m-s)
‘All the students came to the class’
- b. *il-tullab kull-hum iju ʔal-saf*
the-student(m-pl) all-them(m-pl) came(3-m-pl) to-the-class(m-s)
‘All the students came to the class’
- (Quantifier flip)

Remarkably, pronominal ordinals exhibit quantifier flip when followed by a definite noun, as seen in (338)

- (338) a. *taʔahal ʔawal il-majmuʔa li-l-nihaʔi*
qualified(3-m-s) first(m-s) the-group(f-s) to-the-final
‘The first (team) of the group qualified to the final’
- b. *il-majmuʔa ʔawal-ha taʔahal li-l-nihaʔi*
the-group(f-s) first-it(f-s) qualified(3-m-s) to-the-final
‘The first (team) of the group qualified to the final’
- (Quantifier flip)

Finally, like the universal quantifier *kull* (all), ordinals are not compatible with singular definite human nouns, as seen in (328a) and (330c) repeated here as (339) and (340).

- (339) **ʔawal il-walad*
first(m-s) the-boy(m-s)
‘First boy’

¹See Benmamoun (1999) for a discussion of quantifier flip and floating in Arabic.

- (340) *kull il-walad
all(m-s) the-boy(m-s)
‘All the boy’

Turning now to the behaviour of prenominal ordinals when followed by an indefinite noun, both distributive *kull* and prenominal ordinals are not compatible with indefinite plural nouns, as seen in (327) and (332) repeated here as (341) and (342).

- (341) *ʔawal wlaad
first(m-s) boy(m-pl)
‘First boys’

- (342) *kull kutub
each books(m-pl)
‘Each books’

To account for this restriction, I adopt the analysis of *each* proposed by Borer (2005) who argues that *each* merges a copy in Div (i.e. Cl) before moving to #P (i.e. QP in the present analysis), thus blocking plural marking on the following noun, as seen in (343).

- (343) ***Singular-taking quantifiers (output: every boy, each meat):***
[DP [_{#P} *every/each* ⟨e⟩_{#(DIV)} [_{CL^{max}} ~~*every/each*~~ ⟨e⟩_{DIV(♯)} [_{NP} meat/boy]]]]
(Borer, 2005: 114)

Summing up, I have shown that ordinals do not belong to a uniform category. I argued that postnominal ordinals are adjectives that adjoin to a functional projection above NP, whereas prenominal ordinals are quantifiers that come in two flavours. When an ordinal is followed by an indefinite NP, the ordinal behaves like the distributive quantifier *kull*, and in such a case, the ordinal merges DP-internally. On the other hand, it was shown that when the ordinal is followed by a definite noun, the ordinal behaves like the universal quantifier *kull* (all), which merges outside the whole DP.

A.1 Ordinals and Ellipsis

As mentioned above, ordinals can occur pre or postnominally. I argued that postnominal ordinals are adjectives, whereas prenominal ordinals are quantifiers that merge inside or outside the DP depending on definiteness of the following noun. The following examples illustrate how ellipsis proceeds with postnominal ordinals:

- (344) a. sam gara il-kitaab il-ʔawal, u ana
 sam read(3-m-s) the-book(m-s) the-first(m-s), and I
 garait il-kitaab il-tani
 read(1-m-s) the-book(m-s) the-second(m-s)
 ‘Sam read the first book, and I read the second’
- b. sam gara kitaab ʔawal, u ana garait
 sam read(3-m-s) book(m-s) first(m-s), and I read(1-m-s)
 waḥad/*∅ tani
 one(m-s)/∅ second(m-s)
 ‘Sam read a first book, and I read a second one’

The above data show that when the nouns is definite, ellipsis takes place freely as is the case with adjectives, whereas when the noun is indefinite pronominalization with *waḥad* is obligatory.

Turning to prenominal ordinals, when the ordinal is followed by an indefinite noun, pronominalization is obligatory, as seen in (345).

- (345) a. *sam gara ʔawal kitaab, u ana garait
 sam read(3-m-s) first(m-s) book(m-s), and I read(1-m-s)
 tani kitaab
 second(m-s) book(m-s)
 ‘Sam read a first book, and I read a second one’

- b. sam gara ʔawal kitaab, u ana garait
 sam read(3-m-s) first(m-s) book(m-s), and I read(1-m-s)
 tani waḥad
 second(m-s) one(m-s)
 ‘Sam read a first book, and I read a second one’

By contrast, when the ordinal is followed by a definite noun, only NPE is possible and pronominalization is blocked, as seen in (346a) and (346b) respectively.

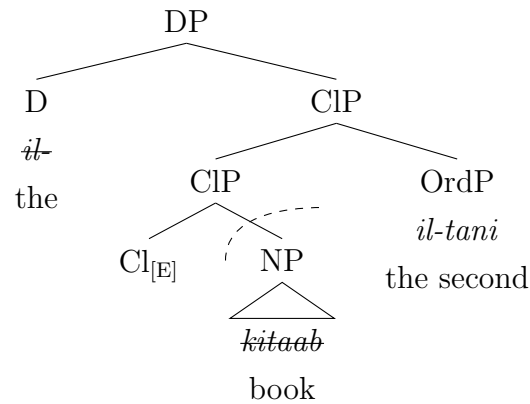
- (346) a. sam txarraḡ ʔawal il-fauj, u fadi
 sam graduated(3-m-s) first(m-s) the-class(m-s), and fadi
 txarraḡ tani il-fauj
 graduated(1-m-s) second(m-s) the-class(m-s)
 ‘Sam graduated as the first of his class and Fadi graduated as
 second (Intended meaning)’
- b. *sam txarraḡ ʔawal il-fauj, u fadi
 sam graduated(3-m-s) first(m-s) the-class(f-s), and fadi
 txarraḡ tani waḥad
 graduated(1-m-s) second(m-s) one(m-s)
 ‘Sam graduated as the first of his class and Fadi graduated as
 second (Intended meaning)’

To account for the above data, I argue that ellipsis with postnominal ordinals is an instance of NPE, and that when the NP is indefinite the null classifiers is stranded and pronominalization takes place. Given this, the examples in (344) repeated here as (347) have the structures in (348).

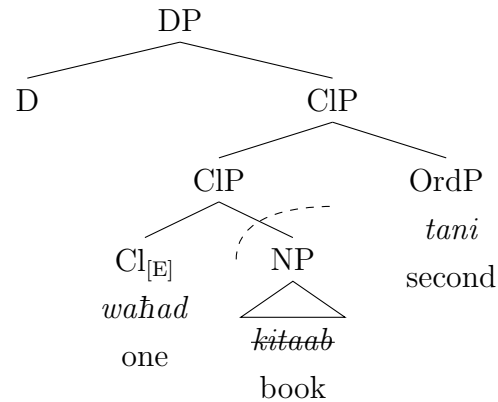
- (347) a. sam gara il-kitaab il-ʔawal, u ana
 sam read(3-m-s) the-book(m-s) the-first(m-s), and I
 garait il-kitaab il-tani
 read(1-m-s) the-book(m-s) the-second(m-s)
 ‘Sam read the first book, and I read the second’

- b. sam gara kitaab ?awal, u ana garait
 sam read(3-m-s) book(m-s) first(m-s), and I read(1-m-s)
 waḥad/*∅ tani
 one(m-s)/∅ second(m-s)
 ‘Sam read a first book, and I read a second one’

(348) a.



b.

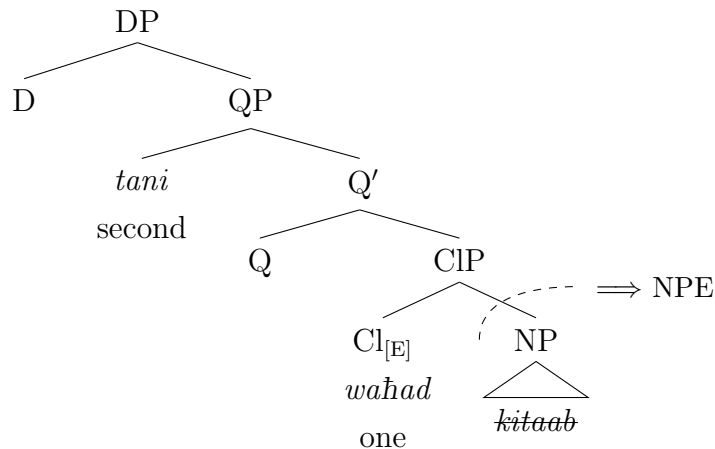


As for prenominal ordinals, the examples in (345b) repeated here as (349) shows that pronominalization is obligatory with prenominal ordinals.

- (349) sam gara ʔawal kitaab, u ana garait
 sam read(3-m-s) first(m-s) book(m-s), and I read(1-m-s)
 tani wahad
 second(m-s) one(m-s)
 ‘Sam read a first book, and I read a second one’

I argue that the example in (349) involves NPE. Namely, ellipsis targets the NP alone, and the silent classifier is left stranded in Cl, thus pronominalization takes place. The relevant structure is given in (350).

(350)



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